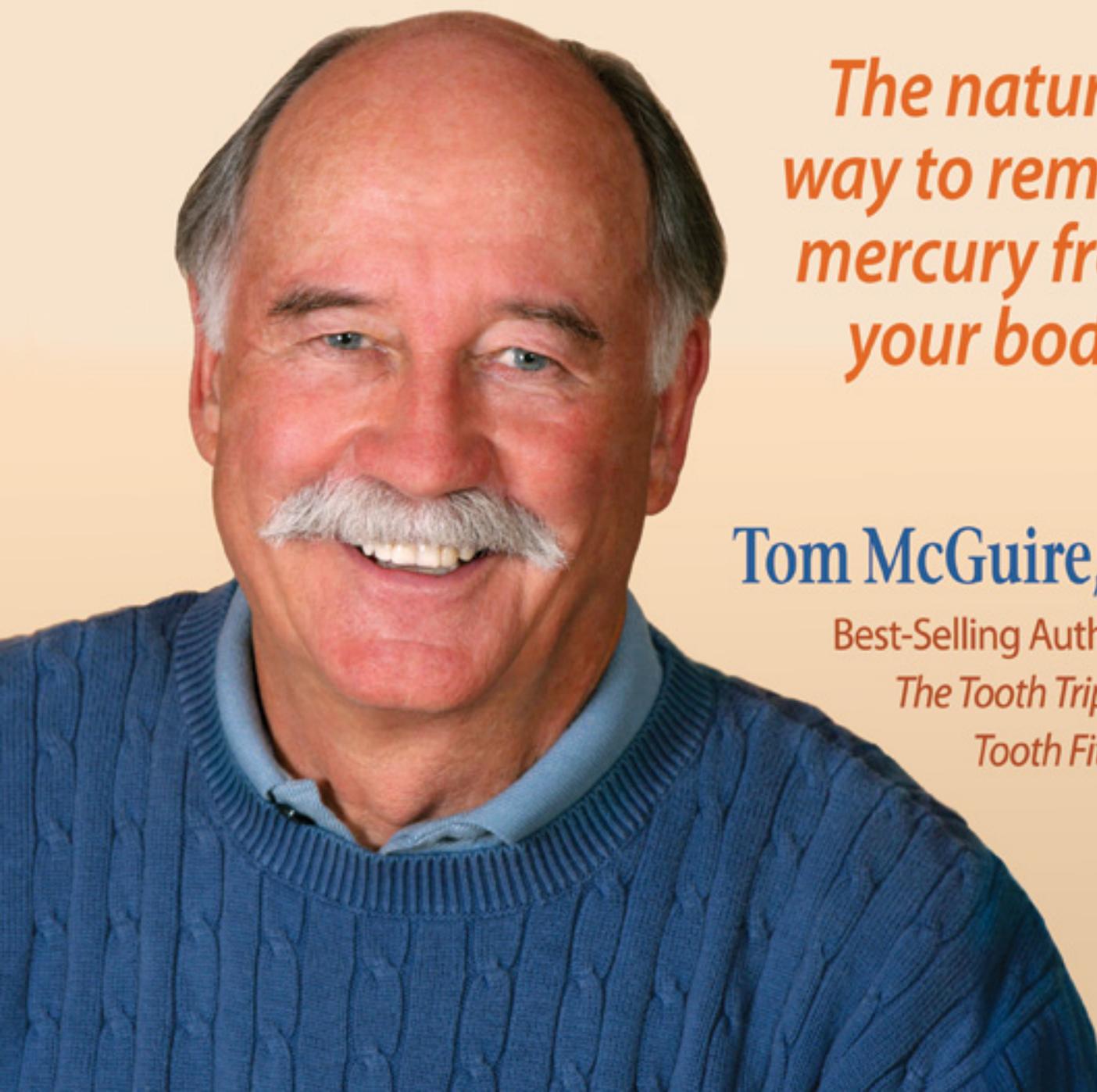


Dr. Tom McGuire's Dental Wellness Series



Mercury Detoxification



*The natural
way to remove
mercury from
your body*

Tom McGuire, DDS

Best-Selling Author of
*The Tooth Trip &
Tooth Fitness*

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Third Edition: June, 2007

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Mercury Detoxification is dedicated to my wife Zoe.
Without her love and support this book would not be possible.

Disclaimer

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The publisher and author do not recommend undertaking this detoxification program without a complete medical and dental examination before proceeding with the program. Ideally a dentist, physician, or other health professional who is knowledgeable about detoxification and nutrition should be advising you. If you do attempt to initiate this program on your own, it is recommended that you proceed slowly, beginning with the lowest recommended dosage and stopping the program at the first sign of any adverse reactions.

Table of Contents	v
List of Tables	vi
Foreword	8
Introduction	10
 Mercury Detoxification: How to Naturally Remove Mercury from Your Body	
Chapter 1 Understanding Mercury Detoxification	14
Chapter 2 Mercury Detoxification from A to Z.....	19
Chapter 3 Additional Support for Your Program	33
Chapter 4 What You Need to Know about Vitamins	39
Chapter 5 What You Need to Know about Nutritional Supplements.....	55
Chapter 6 Support for the Intestine and Brain	72
Chapter 7 The Program Guide	82
Chapter 8 Monitoring Your Program.....	96
Chapter 9 Understanding Pharmaceutical Chelators	105
Chapter 10 Oral and Overall Health	116
Chapter 11 A Message from Dr. Tom	119
 Appendices	
A A Short-Cut to Mercury Detoxification	120
B Mercury Related Symptoms and Diseases	122
C Improvement in Symptoms Related to Chronic Mercury Poisoning	125
D Commonly Used Tests for Mercury.....	128
E Testing for Mercury Allergy	131
F Autism.....	132
G Helpful Charts and Forms	137
H Health Maintenance Program.....	143
I Intravenous (IV) Therapy	144
J Testing Laboratories.....	146
K Resources	147
 Glossary	 151
 References	 155
 Index	 164
 About Dr. Tom.....	 172

List of Tables

Chapter 2

What in is a Microgram?.....	20
Early Symptoms of Chronic Mercury Poisoning.....	25
Emotional and Physiological Symptoms	25

Chapter 3

Seafood to Avoid	34
Safe Fresh & Saltwater Fish	35

Chapter 4

Label for a Multiple Vitamin	43
Multiple Vitamin Recommendations.....	49
Other Nutrients in a Multiple Vitamin.....	50
Vitamin C Recommendations	51
Mineral Recommendations	52

Chapter 5

Amino Acid Recommendations.....	57
Enzyme Recommendations.....	59
Garlic Recommendations.....	61
Comparing Supplements and Special Instructions	63
Essential Fatty Acids (EFA's)	67
Foods High in Sulfur.....	68
To Take Prior to Amalgam Removal.....	71

Chapter 6

Intestinal Support Products.....	75
Brain Food Chart.....	80

Chapter 7

Supplement Tolerance Testing	84
Chlorella Tolerance Testing.....	85
Brain Supplement Tolerance Testing.....	86
Supplement Schedule Chart.....	91
The Program at a Glance.....	92
Determining the Length of the Program	93

Chapter 8

Charting Subjective Symptoms: 1	100
Charting Subjective Symptoms: 2	101
How to Monitor the Program.....	102

Chapter 9

Comparing DMSA and DMPS	106
Tolerance Testing DMSA	110
DMSA Week 1 (Tolerance Testing)	111
DMSA Week 2.....	111
DMSA Week 3.....	111
DMSA Week 4.....	111
DMSA Weeks 5-7.....	112
DMSA Week 8.....	112
DMSA Weeks 9–11	112
DMSA Week 12.....	112
DMSA Weeks 13 – 15	114
DMSA Week 16.....	114
DMSA Week 17-19	114
DMSA Weeks 20.....	114
DMSA Weeks 21-22.....	114
DMSA Week 23.....	114
DMSA Week 24.....	115

Appendices

Appendix A

Mercury Detoxification made Simple	120
--	-----

Appendix B

Symptoms of Chronic Mercury Poisoning	122
Diseases Related to Chronic Mercury Poisoning.....	123

Appendix C

Symptom Improvement after Mercury Amalgam Filling Removal	125
---	-----

Appendix D

DMPS Chelating Order.....	129
---------------------------	-----

Appendix F

Factors Determining Mercury Release	134
---	-----

Appendix G: Master Charts

Supplement Schedule Chart 1: Mercury Detoxification Program Master	138
Supplement Schedule Chart 2: Blank Master	139
Supplement Schedule Chart 3: Brain Support Master	140
Supplement Schedule Chart 4: Health Maintenance Program Master.....	141
Chart 5: Subjective Symptom Chart	142

Foreword by Dr. Elson Haas

As a health professional I'm constantly looking for new and effective approaches to understanding and treating health problems. I do this because I believe I have a responsibility to myself and my patients to make sure I provide them with the best advice and treatment. My search for information involves many areas of health and I've become increasingly concerned about chronic mercury poisoning. Recently much attention has been focused on mercury exposure from seafood and fossil fuel burning energy plants. While these are important concerns, I've become even more apprehensive about my patients' exposure to toxic mercury vapor released from amalgam fillings.

I had been aware of the controversy surrounding mercury amalgam fillings for many years (and had all mine removed nearly twenty years ago) however, I had not yet found a source of objective & definitive information that addressed every aspect of this subject; for myself and my patients. I wanted to know more about how mercury vapor, released from amalgam fillings, affects the health of those who now have, or had, them. And more importantly, I wanted to know the best treatment protocol to remove any mercury that had been stored in the body.

My long search ended when Dr. Tom McGuire, DDS asked me to do the Foreword to his book, *Mercury Detoxification: The Natural Way to Remove Mercury from Your Body*. I've known Tom for a number of years and he has been exceptionally dedicated in his efforts to help people improve their oral and overall health. Once I finished reading his book I knew it would not only answer my questions but would become the most important book, to date, ever written on this subject. I feel honored to write this Foreword.

Not only is *Mercury Detoxification* a factual and informative book, it is also extraordinarily easy to read and understand. Even if you knew nothing about mercury detoxification prior to reading the book you will understand the concept when you finish it. This exceptional book will take you through every step of the process of how to initiate a mercury detoxification program that is specifically designed to remove mercury from the body and support your overall health.

Mercury from dental fillings can directly or indirectly cause, contribute to, or make worse, nearly every disease or illness we know. If you now have these poisonous fillings and don't take the proper steps to have them safely removed—or if you've had them removed and haven't detoxified mercury from your body — any medical treatment you may now be receiving for any existing health problem may not be as successful as it could be. Thus, if you want your efforts at dealing with any existing health conditions related to chronic mercury poisoning to be more successful and want to achieve an optimal state of health; you'll need to make every effort to safely eliminate mercury from you body.

Mercury Detoxification was written for everyone who understands that the mercury released from amalgam fillings is hazardous to their health and who chooses to eliminate the main source of mercury exposure — amalgam fillings. It's also for those who have already had these toxic fillings taken out and now want to have the accumulated mercury removed from their bodies.

I enthusiastically recommend this book to all my patients and to anyone who wants to detoxify mercury from their body.

In Health,

Elson M. Haas, MD
Integrated Medicine Physician

Editors Note: Dr. Haas is a leading authority on integrated and alternative medicine and the founder and director of the Preventive Medical Center of Marin. He is also the author of 6 best selling books on health & nutrition; *Staying Healthy with the Seasons*, *The Detox Diet*, *Staying Healthy with Nutrition*, *Staying Healthy Shopper's Guide*, *The False Fat Diet*, and *Staying Healthy with Nutrition: The Complete Guide to Diet and Nutritional Medicine*. Additional information about Dr. Haas, his approach to health and healing, and how to contact him, can be found on his website, www.elsonhaas.com

Introduction

Mercury Detoxification: The Natural Way to Remove Mercury from Your Body will show you how to support your body's efforts at removing mercury in the safest, most effective, and most natural way possible. If this is your first experience with a mercury detoxification program this book will be an invaluable guide to this important health building process. It will also be beneficial if a previous attempt at detoxifying mercury did not achieve the desired results, or you're now participating in another detoxification program and need more information than you've been provided.

When it comes to eliminating mercury from the body the more you know about the detoxification process, the better off you'll be.

Mercury Detoxification will explain:

- Why removing mercury from your body is important to your overall health and how the detoxification process works.
- The role and importance of the immune system in mercury detoxification.
- The basics of vitamins and nutritional supplements needed to support your body's efforts at removing mercury.
- The importance of supporting intestinal health during this process.
- The value and importance of providing your body with healing 'brain' food.
- How to tolerance test supplements to minimize potential side-effects.
- The role of pharmaceutical chelating agents in the detoxification process.
- Testing for mercury and how it can be used to effectively monitor your detoxification program.
- How to use my innovative Supplement Schedule Charts to help you keep track of your program and make it exceptionally easy to follow.

Why My Program Works

My program will work for you because:

1. It supports the body's unique ability to remove mercury.
2. It takes a **natural** approach to detoxification.
3. It is safe and designed to do no harm while accomplishing its desired goals.
4. You don't have to get sick to get well.
5. When it comes to removing mercury, I believe it is better to start low and go slow.
6. It supports brain and intestinal health.

Mercury Detoxification will provide you with the essential concepts of removing mercury from your body in a language you can easily understand. I've made every effort to simplify and de-mystify this subject. But if you also want to review the science that supports my program you'll find the studies I used in the **References** section. (Click on highlighted word to go page.)

There is an extensive list of the most common mercury-related symptoms and diseases in [Appendix B](#). Information about mercury-related symptoms that improve after filling removal, and or, with a detoxification program is found in [Appendix C](#).

A Short-Cut to Mercury Detoxification

If you are looking for a short-cut to mercury detoxification, I'm sorry to inform you that there isn't one. You'll have to comply with the program and take the recommended supplements if you want it to succeed. However, I can offer you a short-cut regarding the amount of material you'll need to read to actually participate in the program. This short-cut will only work if you already understand the basics of detoxification, the role of nutritional supplements, and how mercury affects the body. So if you fall into this category you'll find the short-cut to mercury detoxification in [Appendix A](#).

If You Still Have Mercury Amalgam (Silver) Fillings*

(If you've already had your amalgam fillings removed you can skip this section.) If you still have mercury amalgam fillings you may want more information before making a decision to have them removed.

However, I will briefly summarize the basics of how chronic mercury poisoning affects the body in Chapter Two: *Mercury Detoxification from A to Z*, but it is only an introduction. If you're still uncertain about whether or not mercury amalgam fillings are a serious health hazard, or want to know more about how mercury can devastate your health, I recommend reading, *A Mouth Full of Poison: The Truth about Mercury Amalgam Fillings!* It covers every aspect of this important subject and will answer all of your questions concerning it.

There's no better book available on this subject. It's a great gift for anyone who needs this information, be it you, a family member, a friend, or even a curious dentist who may have his or her own questions about the safety of mercury amalgam fillings. You can purchase this book from my website, www.dentalwellness4u.com. (If you cannot link directly to the website from any of the links provided in the book, the easiest way to access the page is to copy and paste it to your internet address bar at the top of your internet browser.)

If after reading *A Mouth Full of Poison* you decide to have your mercury amalgam fillings removed, you will need to take the next step, that of finding a mercury free dentist to safely remove and replace them. You can access the world's largest database of mercury free dentists by going to www.dentalwellness4u.com/freeservices/find_dentists.html.

*Note: You do not have to wait to start my mercury detoxification program until you've had your fillings removed. In fact it is essential that you begin it as soon as possible because you are still being exposed to mercury from your fillings and the body is in need of this support more than ever.

For the Dentist

If you are a dentist, mercury free or not, you are being continually exposed to mercury vapor from amalgam fillings. Although the term "mercury free" has long been used to describe dentists who do not place amalgam fillings and safely remove them, it is not accurate. As long as you are removing fillings, even in a protected way, you are still being exposed to mercury. The only

accurate way to use the term “mercury free” would be if your office neither placed nor removed them.

Even if you have had your amalgam fillings removed you will not have eliminated your exposure to mercury vapor. As long as you have been and still are being exposed to mercury vapor on a regular basis, your health is at risk. Your exposure to mercury is occupational and except for dentistry, all companies using mercury are monitored. You owe it to yourself, and your family, to do whatever you can to protect yourself. In my opinion, that includes protecting yourself against exposure and supporting your body’s efforts at eliminating mercury.

There is no doubt in my mind that every dentist who is still being exposed to mercury vapor should participate in my program, especially those who have any symptoms or diseases related to chronic mercury poisoning. If you are a skeptic I highly recommend taking the objective fecal metals test and see if the test results give you something to think about. This test is explained in Chapter 8, page 97.

Why an eBook

I chose to do Mercury Detoxification as an eBook for a number of reasons, all of them have to do with making this kind of book more accessible and user friendly. The key to this is utilizing the Adobe Acrobat PDF format to set-up the book.

Basically the PDF format allows the book to be read on any computer platform, be it a PC or a Mac. It also allows each page to be printed accurately on any type of printer. But there are many more features and advantages to a PDF document that makes it perfect for this type of how-to book. Some of them are:

- Full 8 ½” x 11” page size which allows for use of large and easy to read fonts.
- Exceptional maneuverability for getting around the book. You can:
 - Type in a page number you want to go to and you are there with a click.
 - Use **Bookmarks** to mark a page you will be returning to.
 - Use the **Pages** feature to get a thumbnail sketch of the pages and easy access the ones you want.
 - Directly link to a page from the Table of Contents and Index.
- Direct links to recommended websites. This allows you to go directly to the referred website from that page.
- Full sized charts and tables for easy viewing and printing.
- Ability to print charts at full size. As you will see, this is important for making the Supplement Schedule Charts easy to read and use.

There are many other advantages and if you aren’t familiar with using the PDF format and I recommend that you take a few minutes explore it and find out how easy and user friendly it is.

Although it isn’t a printed book *Mercury Detoxification* is still a book and contains the same amount of information, but in a more functional and accessible format. Much of the material is background information that you may not have to re-read, but you can always print out the pages you will be regularly referring to so they will be more accessible. I know you will find this to be a perfect way to use this type of self-help book. Enjoy!

Mercury Detoxification:
The Natural Way to Remove Mercury from Your Body

Chapter 1

Understanding Mercury Detoxification

Is a Mercury Detoxification Program for You?

Everyone who still has mercury amalgam (silver) fillings and those who have had them removed should seriously consider a mercury detoxification program. Because those who still have these fillings are still being constantly exposed to mercury vapor, it is even more important that they begin my program as soon as possible.

The Confusion about Mercury Detoxification

While there's a consensus within the mercury free dental community about the need to safely remove mercury amalgam fillings, there's considerably less agreement about the most effective and safest way to go about removing mercury from the body. In fact, most mercury free dentists and health professionals who believe in the need and value of mercury detoxification have differing recommendations.

Some recommend extremely low dosages of supplements and others recommend dosages that may be too high for many people. This can result in confusion for the layperson, especially when the fundamentals of mercury detoxification haven't been adequately explained and understood. And, without the basic background information you won't be able to make an informed choice about whether or not to participate in a detoxification program.

Most mercury detoxification programs are similar in the supplements they use, but differ on dosages, when to begin, how long to stay on the program, and what pharmaceutical chelator to use, if any.

Taking the Confusion out of Mercury Detoxification

The following will explain the innovative and natural approach I take to mercury detoxification. This approach is the key to the safety and success of my program.

A Natural Approach

My program approaches mercury detoxification in the safest and most natural way possible. This insures that any possible undesirable side-effects will be reduced or eliminated. The goal of my program is to support—and ultimately improve—your body's own extraordinary ability to effectively remove mercury. Most people aren't aware that the body has this ability, but as you will read, if the exposure is too great it becomes less and less effective at removing it—unless it receives support from you.

Once your body's ability to remove mercury has been restored, and your mercury levels have been reduced, the program can continue to function as a health maintenance program. In other words, my program is designed to not only help you eliminate mercury in the most natural way possible, but also **keep** you healthy.

While the fundamental approach I take to mercury detoxification is the same for everyone, each person's situation is unique and should be dealt with accordingly. For example, your present state of health, nutritional status, health of your immune system, the extent and length of

your mercury exposure, and your body's ability to eliminate mercury, must all be taken into consideration. Each will determine how long you should participate in the program and the benefits you will receive from it.

My approach to detoxification makes my program safe for virtually anyone who doesn't have a serious, pre-existing health problem—such as severe liver and kidney problems, or chronic constipation—which would contraindicate or limit full participation without support from a health professional. Except for the possible use of a pharmaceutical chelator, everything in my program is either naturally produced by the body, required by the body but must be obtained from outside sources, e.g. vitamin C, or a health supporting nutrient. All the supplements and nutrients used in my program are sold over-the-counter at health food stores and by most vitamin companies. None requires a prescription.

A chelator is an antioxidant or drug that binds with mercury and other metals and removes them from the body. Some of the body's naturally produced antioxidants are chelators and key components of the immune system. Familiar natural antioxidants are glutathione, alpha lipoic acid, beta-carotene, vitamin C, vitamin E, and selenium. DMSA and DMPS, the most commonly used pharmaceutical chelators will be discussed in detail in **Chapter 9**.

Minimizing Undesirable Side-Effects

Another key element of my philosophy regarding detoxification is that I don't believe you need to get sick while trying to get well. Because some people detoxify very quickly—even too quickly in some cases—I believe that you should always *start low and go slow**. Detoxifying too rapidly can be difficult and uncomfortable for some. In fact, some people have become ill during a detoxification process that was too aggressive because it stirred up more toxins than their bodies could effectively eliminate.

I believe this approach should be avoided. The safe and gentle approach that I promote is even more important for those:

- Who are very mercury toxic;
- Whose immune system has been severely compromised; and
- Who may have difficulty with rapid detoxification.

In addition, some nutritional supplements work fine for some people, but may produce unwanted dose-related side-effects in others. My program provides a sound foundation that can be built on or even reduced, as the case may be. It is also designed to let you become more involved in what, and how much, you should take. After all it's your body, and your body will quickly tell you how well it can handle what you are putting in it; regardless of what I or anyone else tells you should or shouldn't happen. So it is important that you learn how to listen to it.

*There is an exception to the start low and go slow philosophy and that is if there is an acute exposure to mercury. In that case your health care practitioner will implement more immediate and stronger measures.

Tolerance Testing

I also emphasize tolerance testing to help prevent or minimize side-effects. The two most commonly seen side-effects of taking supplements and other nutrients are allergic and dose-related reactions. Most of what is included in my program is made or needed by the body and shouldn't cause allergic reactions. But dose-related reactions, even with natural substances the

body needs, can occur if the dosage is excessive (the old adage of ‘taking too much of a good thing’ applies here). To ensure this does not occur I include a tolerance testing formula that starts you off with small doses of a supplement and then lets you gradually increase it until the recommended levels are reached. Tolerance testing will be explained fully later in the book, Chapter 7, page 82.

Intestinal Support

The intestine, small and large, plays an important and complex role in health and in detoxification. When the body releases mercury into the intestine it may then be “technically” out of the body at that point but it still has to travel through 26 feet of intestine before it is “officially” removed from it. During those 26 feet a lot of things can happen to the mercury released into it and, unless the intestine is properly supported, all the mercury that enters it may not leave it!

Under certain conditions mercury can be re-absorbed into the body and a serious effort should be made to prevent this from happening. Thus, providing support to the intestine is another important element of my program. This subject will be discussed in detail in Chapter 6.

Brain Support

We all know mercury is a powerful poison, but it is scientifically classified as a neurotoxin. A **neurotoxin** is a toxic agent or substance that inhibits, damages or destroys the tissues of the brain and central nervous system. Because many of the symptoms related to chronic mercury poisoning are neurological, I believe that supporting brain health can substantially improve the outcome of a mercury detoxification program. It’s so important that I’ve devoted a special section on it in Chapter 6—a must read for anyone with **any** neurological symptoms related to mercury poisoning.

Monitoring Your Mercury Detoxification Program

Monitoring your mercury detoxification program, both objectively and subjectively, can be very helpful in assessing your progress, both for you and your supporting health professional. Very few detoxification programs include this essential component. I cover this in detail in Chapter 8.

Supplement Schedule Charts

Based on my experience, extensive research of the principles of detoxification, and my evaluation of many mercury detoxification programs, I believe that many are not successful because the participant fails to fully comply with the program. There are a number of reasons for this, including a lack of understanding about detoxification. But one of main reasons is the difficulty in keeping track of which supplements to take, and when to take them. I’ve created special charts and forms that make keeping track of my program a simple process. Information regarding them is found in Chapter 7.

Chronic Mercury Poisoning and the Health Professional

Because mercury can directly and indirectly contribute to so many symptoms and illnesses, its elimination from the body must be considered a priority. There is no doubt in my mind that unless chronic mercury poisoning is properly dealt with, any health care professional who uses conventional treatment protocols to treat **any** of your health problems may be frustrated by their lack of success. In many cases, this is because he/she hasn’t considered the wide-ranging effects

of chronic mercury poisoning when evaluating, diagnosing, and treating your existing health issues.

If your health care professional isn't aware of them you may need to alert him/her, of the destructive role mercury can play. For years the ADA, and its supporting pro-amalgam dentists, have led many health professionals to believe that amalgam fillings do not release mercury. Even today, when it has been conclusively proven that mercury is released from these fillings, the ADA tells everyone not to worry because the amount of mercury vapor released from amalgam fillings won't accumulate in the body, and thus isn't a health hazard.

Although they can no longer scientifically support that contention, their denial has served to keep a majority of health professionals, in the U.S. and throughout the world, not only in the dark, but so brainwashed that they are unaware of the devastating effect that chronic mercury poisoning can have on the health of their patients.

When to Seek the Support of a Health Professional

If you have symptoms or diseases that could be related to chronic mercury poisoning, and are not in good health, I strongly recommend that you seek the support and guidance of a qualified health care professional to support your detoxification program. Ideally you should find one who understands the need and importance of mercury detoxification and he, will give you a thorough health evaluation. This evaluation will help identify your specific health issues and allow your health professional to modify my mercury detoxification program accordingly. In most cases, my program can co-exist with the treatment you are now receiving for other health issues. If your health professional has determined that the treatment he/she is providing won't prevent you from participation in a mercury detoxification program, you can move forward with it.

One of the benefits of my program is that as you are going through it, some health issues, that hadn't previously responded to traditional treatment, could improve or even disappear. This is a strong indicator that they were the ones more directly related to chronic mercury poisoning.

Be aware that your health professional will want you to provide him with a list of my program's supplements and dosages. He will want to make sure they don't interfere with his treatment protocol and that no duplication occurs. Also, if you've ever had an allergic reaction to any of the supplements I recommend, don't take them without first consulting with a health care practitioner. He may be able to provide you with an effective alternative to my recommendation.

Convincing Your Health Professional

If your health professional is skeptical about the effects of chronic mercury poisoning on your health, has any doubt that elemental mercury vapor from amalgam fillings can accumulate in the body, or doubts the importance of detoxifying mercury; simply request that he order a fecal metals test for you. This test is described in detail in **Chapter 8**. The results of this objective and medically accepted test should open his eyes to the possibility that mercury could very well be causing, contributing, or making worse, some or all of your existing health concerns.

If you have any symptoms or diseases that are directly or indirectly related to chronic mercury poisoning and the fecal metals test shows that you are mercury toxic, any qualified health professional will realize that, whatever the source of mercury, it absolutely should not be in your body. He should also understand that every effort must be made to safely remove it. If the fecal metals test results doesn't change your health professional's attitude, I urge you to find one who at least has a more open mind and is willing to consider it.

If your health professional is still skeptical after testing, you could also suggest that he/she read *A Mouth Full of Poison: The Truth about Mercury Amalgam Fillings*. Remember, it's your body and your choice.

Finding a Qualified Health Professional

If you intend to utilize a health care professional to support your mercury detoxification efforts, I have some suggestions. Word-of-mouth is always good, particularly if you personally know someone who is happy with his or her health professional.

Many mercury free dentists are aware of qualified health professionals in their area who understand that mercury amalgam fillings are a health hazard. So if your mercury-free dentist doesn't offer a detoxification program—and most don't—he or she is likely to know of a health professional who can support your efforts to remove mercury. I'm compiling a database of alternative health professionals who understand that chronic mercury poisoning is indeed a serious health problem and they can be found on my website, www.dentalwellness4u.com/freeservices/find_health_pros.html.

The Yellow Pages could also be helpful. Look under Physicians and then go to the end of the physician listings. There you'll find a list of medical specialties. Look for a listing of Alternative or Holistic physicians and start making calls

Consultations with Dr. Tom

I am available for phone consultations regarding all aspects of mercury amalgam fillings and mercury detoxification; including how to have amalgam fillings safely removed, the effects of chronic mercury poisoning, support for my mercury detoxification program, or questions about any other program you may be following.

I've found that those who have not had previous experience in vitamins and nutrition supplements, or don't understand the seriousness of chronic mercury poisoning and the importance of safe mercury detoxification, have benefited from consulting with me. For additional information go to www.dentalwellness4u.com/tom/consult.html.

Chapter 2

Mercury Detoxification from A to Z

To fully understand the value and importance of a mercury detoxification program I feel it is essential to have the basic information about how destructive chronic mercury poisoning can be to your health. If your interest goes beyond this brief introduction more detailed information will be found in *A Mouth Full of Poison*. You can participate in a detoxification program without this knowledge but once you realize just how insidious and damaging this poison is to your health, you'll be even more motivated to commit to the program

Mercury, Mercury, Everywhere!

There was a time in our evolution when human beings didn't have a problem removing the small amounts of mercury they were exposed to from the natural environment. Most of the mercury early humans were exposed to was in its least toxic form, inorganic mercury. Thus, over millions of years the human body was able to evolve its own system of safely removing it.

The system the body uses to remove mercury—which for simplicity I will call the immune system—was effective because the daily exposure to mercury was in very, very, very small amounts. This meant that the immune system could prevent mercury from accumulating in quantities that would eventually result in symptoms and diseases related to chronic mercury poisoning. Hence, until the appearance of mercury amalgam fillings (and other man-generated sources of mercury), it was pretty much mercury in and mercury out. If we lived in such a healthy environment today, few of us would experience symptoms of chronic mercury poisoning. But that's the way it used to be!

One definition of the immune system states that it is a complex system whose function is to protect the entire body against infections and toxic foreign substances. Basically the immune system is the system that defends us against whatever is trying to harm us, in any way. Technically, it is the antioxidants the body produces that remove mercury and they are part of the immune system. For the purposes of this book **I will use the terms immune system and antioxidants interchangeably.**

Sadly, it isn't that way today! In the past century alone, the use of mercury in products we are exposed to has **dramatically** increased. Over time, this has resulted in an extraordinarily high level of mercury exposure from energy producing power plants, occupational exposure, products containing mercury, and the food chain, (particularly from mercury contaminated seafood). Our increased exposure to mercury from these sources is bad enough, **but the number one source of mercury exposure to humans is mercury amalgam fillings**. Why? Because over 180 million people in the United States alone have them in their teeth and are being exposed to the mercury released from them 24 hours a day, 7 days a week, year after year; for as long as they are there! That is indeed a scary thought!

The use of mercury amalgam fillings in dentistry began to significantly increase about 60 years ago. That would be a meaningless number if it weren't for the fact that many symptoms and diseases that are directly and indirectly associated with chronic mercury poisoning have also increased proportionately over that period of time. And it isn't getting any better.

Today we are being exposed to many thousand times more mercury from all sources

(especially the more toxic forms of mercury, elemental and organic/methyl) than 60 years ago. This has given our immune/detoxification systems a lot of extra work to do; sadly, it isn't work it was designed for or capable of handling without outside help. The help that must be provided is to eliminate the source of mercury and then support the body's efforts at removing it.

Types of Mercury

There are three types of mercury that we can be exposed to: elemental, inorganic, and organic.

- Elemental mercury is mercury in its purest form. In this form it isn't chemically bonded with other elements and it can't be broken down into anything else but mercury. This is the type of mercury that is still found in thermometers (thankfully they are now being phased out) and comprises about 50% of amalgam (silver) dental fillings.
- Inorganic mercury is chemically bonded in compounds with other elements, with the exception of carbon, such as mercuric chloride. While exposure to this form of mercury is still harmful, it is less than the other two forms.
- Organic mercury is the term used when it is found in carbon-based compounds. The chemical definition of *organic* is "compounds that are carbon-based". The most commonly referred to form of organic mercury is methyl mercury and I will use the terms methyl and organic interchangeably when referring to organic mercury.

Mercury is the most poisonous naturally-occurring, non-radioactive substance on earth, many times more toxic than arsenic, lead, or cadmium. While all forms of mercury are extremely toxic, organic mercury is the most toxic, closely followed by elemental and then by inorganic. The type I'm most concerned with is elemental mercury, because this is what is used in amalgam fillings.

Elemental mercury is the only metal that is a liquid in its pure state. At room temperature mercury releases its poisonous atoms as a colorless and odorless vapor. The amount of mercury vapor released from elemental mercury increases in direct proportion to the temperature. The higher the temperature the more mercury (in vapor form) will be released. It is so poisonous that if you broke a mercury thermometer, put that small amount of mercury in a small dish, placed it 6 inches in front of you, and breathed it continuously for a short period of time, you'd quickly show severe symptoms of acute mercury poisoning, requiring emergency medical treatment.

How Much Mercury is Too Much Mercury!

Any amount of mercury is too much and it is toxic in very small amounts, micrograms! The body has no use for it and **just one atom of mercury can have a harmful effect**. To fully appreciate how challenging it is for the body to track down and remove every atom of mercury it has been exposed to it's helpful to know just how many atoms there are in one microgram.

What is a Microgram?	
<i>Unit of Measure</i>	<i>Contains</i>
One pound	16 ounces (oz)
One ounce	28 grams (gm)
One gram	1000 milligrams (gm)
One milligram	1000 micrograms (mcg)

As you can see, a microgram is extraordinarily small. But here is the scary part—just one microgram of mercury contains roughly 300,000,000,000,000 (that’s 300 trillion!) atoms of mercury. And every one of them is doing some damage to your body!!!

Numbers, numbers, and more numbers! All of those zeros can be frightening but you don’t have to be a mathematician to understand that extremely small amounts of mercury contain an extraordinary number of extremely poisonous mercury atoms. The fact that it is so toxic in such small amounts, and is the only metal that is liquid, and the only one that can release its vapor at room temperature, accounts for its extreme toxicity compared to other poisons and toxins.

Where the Mercury Goes

Here is what we know:

- Mercury is released from amalgam fillings as a toxic vapor.
- There are a lot of mercury atoms in very small amounts of mercury.
- We breathe in mercury vapor from amalgam fillings.

But where do all these atoms of mercury that are released from amalgam fillings go? Well, as much as 80% of the elemental mercury vapor that is released from amalgam fillings goes immediately into the lungs. However, only small amounts are stored in the lungs. The rest quickly passes into the bloodstream. (There’s also evidence that small amounts of this vapor can pass directly into the brain through the nasal cavity and sinuses.) Once mercury vapor enters the bloodstream there are three possible avenues it can take:

1. Some enters red blood cells and attaches to the hemoglobin molecule, on the same site where life-giving oxygen attaches. This reduces the ability of the red blood cells to carry oxygen and means that as more and more mercury enters the bloodstream, less and less oxygen is available to the body. This alone can contribute to numerous health issues, including a lack of energy related to a reduction in available oxygen.
Fortunately the average life cycle of a red blood cell is only about 120 days, so new blood cells are continuously produced. Once the blood stream is no longer exposed to mercury vapor and new mercury free blood cells are formed, the related symptom will soon disappear.
2. Assuming they’re available in sufficient amounts, vitamin C, glutathione, and other natural chelators (and also prescription chelators) that are transported in the blood, can chelate, or help facilitate, the removal of some of the mercury that is found in the blood. (Vitamin C is not believed to be a mercury chelator but can alter the form of mercury, making it easier to be removed by the body.)

The problem here is that the amount of mercury entering the bloodstream is often far greater than the body’s natural chelators can capture during the short time it is there. Thus, depending on the amount of mercury exposure, this may not be very effective as a first line of defense against mercury.

3. The mercury that hasn’t accumulated in red blood cells, or chelated out of the blood, passes out of the bloodstream and into the cells and tissues throughout the general body (which for purposes of this book I define as everything except the brain and central nervous system). There it attaches to enzymes, proteins, cell walls, various cell components, and developing hair follicles throughout the general body.

Mercury that isn’t stored in the general body will pass through the blood brain barrier (BBB) and enter the brain, where it attaches itself to various important cellular components of the brain and nervous system.

Half-life of Mercury

The term half-life of a substance generally refers to radioactive substance. For example, the half-life of plutonium is about 24,000 years, give or take a few. If you started with a pound of it on your kitchen table today (you really wouldn't want to do that), in 24,000 years one-half of it would be gone, no doubt the table as well. You would now have 8 oz of radioactive plutonium sitting on the table. In another 24,000 years one-half of that would be gone, leaving 4 oz, and so on.

Even though mercury isn't radioactive and doesn't naturally decay, there are still those who refer to the half-life of mercury when talking about how long it stays in the body. Don't be fooled or misled by this because mercury doesn't have a half-life in the way we speak of radioactive material. On the other hand, a specific amount of elemental mercury in an open container at room temperature will release mercury as a vapor. Over time the amount in that container will diminish. But soon after mercury vapor enters the body it is converted into a form that doesn't release vapor.

Using the term half-life in relation to the life-span of mercury in the body gives the false impression that even if the body was unable to physically remove mercury it would eventually just somehow disappear. But because mercury is not radioactive the only way mercury can be removed from the body is if it is physically carried out by the body's natural mercury removing antioxidants, or a pharmaceutical chelator, or a substance found in food that can safely remove it.

How Long Will it Take to Get Mercury Out of the Body?

This is one of the most commonly asked questions. The fact that mercury doesn't have a half-life in the body means that there can be no predetermined time for getting it out. If you've done any research of this subject you've undoubtedly heard a lot of numbers thrown out regarding how long it takes to get mercury out of the body. Some say 6 months to a year to remove it from the general body. The consensus figure for how long it takes to remove it from the brain is about 20 years, give or take a few. But because everyone is different in regards to the extent of exposure, its duration, how much is actually stored, where it is stored and what you do, or don't do, to support your body's efforts to remove it; the actual amount of time can vary dramatically from person to person.

For example, if you were extremely mercury toxic and your body's ability to remove it is severely weakened (which is always the case with those who still have amalgam fillings and for those who still have an excessive body burden of mercury) it could take years to get it out.

But what is even more important to consider is that if the source of mercury isn't removed, the body may never be able to remove enough mercury, without help, to prevent mercury related symptoms and diseases from manifesting.

On the other hand if, once you remove the external source of mercury (amalgam fillings, fish, etc.), your future exposure to it is minimal, and you actively support your body's efforts to remove it; it can be eliminated in a much shorter period of time.

It might not be what you would like to hear, but the truth is that no one can accurately answer the question of how long it will take and I'd be very skeptical of anyone who told you that they could give you a definitive answer.

The most accurate answer is that it will take as long as it will take. But the process will be accelerated if you eliminate/minimize your exposure to mercury and participate in a detoxification program designed to maximize your body's ability to remove the accumulated mercury.

When Will My Mercury Related Health Problems Go Away?

This is another good and commonly asked question. The simple answer is that the only way you will know is when your body eliminates enough of the stored mercury to show improvements in your health problems that are related to its accumulation. Or, as long as mercury is being retained somewhere in your body, it will continue to do its damage and the symptoms will not disappear.

Even if were possible to remove it all at once you may not immediately see any improvement in mercury related symptoms. This is because it will take a certain amount of time for the body to repair the damage caused by the mercury that was stored, unless you were allergic to it. If certain symptoms were present because you were allergic to mercury, and you removed the mercury source, those symptoms directly related to being allergic to mercury would quickly be relieved.

But generally speaking, if you remove the source of mercury and no more is entering the body, symptoms directly or indirectly related to chronic mercury poisoning will not get worse. Following the removal of your amalgam fillings and depending on how effective the body is at removing the accumulated mercury, symptoms that are related to mercury toxicity will start to improve. The extent of improvement will be directly linked to how much and how quickly the body is able to remove it and its ability to repair the damage done by it. And, as I previously mentioned, this will vary from individual to individual.

Why Does it Take Longer to Remove Mercury from the Brain?

Improvements shown in general body symptoms related to mercury will appear more rapidly than those related to the brain and central nervous system (CNS). There are a number of reasons for this.

1. It is more difficult for substances to pass in and out of the blood brain barrier.
2. It is easier for the body to remove mercury from the general/systemic body than from the brain and CNS.
3. The damage done by mercury in the general body is more easily and rapidly repaired.
4. Some damage done to cells in the brain can take longer to heal and some damage may be irreversible. The belief is that the brain cannot grow new cells and thus those that are irreversibly damaged cannot be repaired. This also means that the normal function related to those cells cannot be restored.

Reason number four is important enough to expand on. Although only one atom of mercury will do some damage, it will take the influx of a great many atoms of mercury to kill even one cell. If just one cell dies anywhere in the brain, you would never be aware of it. But, for example, imagine if 1000 cells were damaged enough by mercury to manifest a symptom related to the function of those combined cells—say a tremor.

Now imagine that, once the mercury was removed from those cells, that 700 of those damaged cells could be repaired. But say that 300 of them were so badly damaged that the body could not repair them. The result could be that having the 700 cells restored to health and function would be enough to restore normal function and eliminate the tremor; even though that area was now missing 300 cells.

This is possible because of the body's miracle of "redundancy". We definitely have more cells in our brain and body than we absolutely need to carry out any particular function. In fact, there are 100 trillion cells in the human body, give or take a few million. Thankfully the body

has some defense against mercury and it takes a lot of it to damage, or kill a cell.

The bottom line is that the body will ultimately tell you how mercury has affected it, but only after the mercury (as much as possible) has been removed and the body has been supported in its efforts to repair the damage done by it.

Something to Think About

Unfortunately, far too many people with mercury related symptoms, who had their amalgam fillings removed, thought that their health would immediately improve. However, this is not generally the case. Improvement will take time and it is important to understand this. I encourage you to be patient with your detoxification program and not get discouraged.

What Makes Mercury so Toxic?

It's important to understand why elemental mercury is so toxic. The membranes of the cells of the body are composed mostly of fatty substances and it just so happens that elemental mercury vapor is highly fat-soluble. This characteristic allows it to readily pass through the cell membrane and easily cross the blood brain barrier and enter the brain. Once inside the cells of the general body and brain, elemental mercury is oxidized to its inorganic form and can attach itself to the various sites previously mentioned. Once it attaches to an enzyme, protein or any other cellular component, it will disrupt its normal function.

Inorganic mercury is *not* fat soluble, so it can't pass back out of cells in the general body or the brain on its own. In addition, the bond it makes with the enzymes, etc., is very, very strong and not easily broken. This means that once mercury accumulates in brain cells, it is extremely difficult to remove. Unless the *source* of mercury is removed and the body is supported in its efforts to remove mercury, the damage and symptoms expressed by that damage, will only worsen.

In addition, mercury has a strong affinity for what are called sulfhydryl groups. These groups are found in a high percentage of essential enzymes and proteins, all of which are critical to sustaining health. As mercury attaches to these groups it kicks off an essential mineral, mostly zinc and/or copper. This action not only dramatically disrupts how these enzymes and proteins function, but creates large amounts of destructive free radicals in the process.

Acute and Chronic Mercury Poisoning

Although any amount of mercury in the general body or brain can alter the function of, or harm everything to which it attaches, exposure to mercury is always classified as either acute or chronic. The extent of the damage directly relates to:

- The amount of mercury exposure;
- The length of exposure;
- How much mercury has accumulated;
- Where it's located in the body;
- How long it's been there; and
- The overall health of the immune/detoxification system.

Acute mercury poisoning is relatively rare and occurs if you are exposed to a sudden and high dose of mercury, especially elemental and organic mercury. Acute mercury toxicity can result in the manifestation of immediate and severe symptoms, if it isn't immediately treated it can quickly lead to death due to renal (kidney) failure.

In contrast, chronic mercury poisoning is very common, but largely unrecognized. It's the result of continuous exposure to small amounts of mercury over an extended period, such as the exposure to mercury vapor from amalgam fillings. The effects of chronic mercury poisoning aren't as sudden or dramatic as acute mercury poisoning, but over time can be extremely destructive to one's health. Chronic mercury poisoning is something like radiation poisoning, where—if you're far enough removed from the source of radiation—you won't die right away but you could eventually get a serious radiation-related illness, one that could result in numerous symptoms, diseases and in some cases cause death.

Therefore, chronic mercury poisoning may not be instantly fatal but over time, depending on many factors, you could experience an increase in the number and severity of mercury related symptoms—which could ultimately contribute to a serious or even fatal disease.

Early Symptoms of Chronic Mercury Poisoning

Some of the earliest recognizable neurological symptoms of chronic mercury poisoning that can be directly attributed to a low, but sustained level of mercury are:

Early Symptoms of Chronic Mercury Poisoning
Fine tremor (shaking) of the hands & eyelids
Loss of sensitivity in hands and feet
Difficulty walking
Visual problems
Uncharacteristic response to stimulation
Headaches
Slurred speech
Dizziness
Gum Problems
Low energy
Ringings in the ears

In addition to the more physical manifestation of neurological symptoms, chronic mercury poisoning can manifest emotional and psychological symptoms, such as:

Emotional & Psychological Symptoms
Irritability
Hallucinations
Inability to concentrate
Memory loss
Wide mood swings
Apathy
Irrational fear
Low self-esteem
Depression
Excitability

Another factor that must be taken into consideration is that any of these early symptoms may appear and disappear for no apparent reason. This is because the amount of mercury you are

exposed to on a daily basis, and your body's ability to remove it, can vary from day to day. This means that on some days it may only take a small amount of additional mercury to manifest an early symptom. Yet the next day or week, if less mercury comes in, the body could remove enough of it to cause that symptom to disappear.

(A more complete list of symptoms and diseases related to chronic mercury poisoning can be found in Appendix B, page 122.)

The Direct and Indirect Health Effects of Chronic Mercury Poisoning

Chronic mercury poisoning can have a destructive effect on the body in two ways: directly and indirectly. Mercury has a direct and damaging effect on everything it comes in contact with, such as proteins, enzymes, DNA, and thousands of other important components of cells. It disrupts the body's ability to carry out the normal metabolic functions required for normal health and function and can readily cause genetic mutations. But the harm mercury inflicts doesn't stop with its direct effects, because the indirect effects of mercury on your health are just as serious.

One indirect effect of mercury is how it confuses the immune system into attacking itself. It can inactivate neutrophils and impair leukocytes, two important types of immune system cells that protect the body from bacteria and other foreign agents. It can create autoimmune disorders by attaching to important proteins. When this occurs, the immune system perceives the mercury-altered proteins as foreign substances. In its effort to eliminate the problem, it generates an immune system response and the resultant inflammation. In short, mercury fools the body into attacking itself.

The direct effects of mercury poisoning are serious enough but because it can so severely weaken the immune system and cause the depletion of vital antioxidants, its indirect role in lowering the body's resistance to other diseases should never be overlooked or underestimated! It's fair to say that you'll never be truly healthy as long as mercury amalgam fillings are releasing mercury vapor and mercury accumulates in your body.

The Immune and Detoxification Systems and Antioxidants

The immune system is responsible for detecting and capturing bacteria, free radicals, viruses, and other harmful substances, including mercury and other heavy metals. Once the various components of the immune system have "captured" these harmful substances, the body must then detoxify them—reducing them to harmless, water-soluble substances that can then be safely excreted. This elimination is done via the various detoxification pathways: the liver (intestine/feces), kidneys (urine), lungs, skin, and hair. Generally speaking, the immune system captures the bad guys and runs them out of town via the detoxification highway. Have no doubt, if you are serious about healing your body and achieving optimal health, your immune system must be operating effectively.

The effects of mercury on the immune system can be likened to the effects of AIDS. The AIDS virus doesn't kill directly but so weakens the immune system that it can no longer protect the body against other toxins, bacteria, and other harmful substances. People with AIDS don't die of AIDS. They die of pneumonia, kidney failure, etc. But the fact that AIDS isn't the direct cause of death does not make it less lethal. While chronic amounts of mercury may not be as initially devastating, the analogy is accurate in that, over time, the indirect effects of mercury are very, very harmful to the immune system.

Antioxidants

Antioxidants, which the body either manufactures or gets from food, are key elements of the immune system. Familiar antioxidants are vitamin C, vitamin E, and selenium, but the king of them all is a small enzyme called glutathione (GSH). GSH has the wonderful ability to capture toxic metals, free radicals, and other toxins, and either detoxify them or directly remove them from the body. During this process of detoxifying harmful substances, the GSH molecule may be damaged, requiring minor repairs to restore it to function but, once the repairs have been made, it can be reused again and again. Unfortunately as you will see, this isn't the case when GSH captures mercury.

Free radicals are molecules that can damage and ultimately kill healthy cells. They're known to be extremely toxic to the body and they severely stress the immune system. Most health experts believe that an excessive production of free radicals is the primary cause of all degenerative diseases.

A healthy immune system can eliminate a certain amount of mercury on a daily basis. But as you can imagine, if the amount of available glutathione and other antioxidants capable of removing mercury are seriously depleted, the result is an ineffective immune system. Sufficient amounts of antioxidants, particularly glutathione, must be produced, or made available to the body from other sources, or your health will rapidly deteriorate. The body's antioxidants are like knights guarding the walls and doors of the castle—if there aren't enough of them the bad guys can take over.

Although the same basic principle of detoxifying any harmful substance also applies to mercury, there's a unique variation on the theme.

Mercury Depletes Antioxidants

The problem the body faces with mercury is that it cannot be broken down (detoxified) into anything other than mercury. Thus, the body's mercury removing antioxidants can't break it down into something harmless, which could then be easily passed out of the body. Instead, when glutathione captures mercury, it must physically escort it all of the way out the body. This means that the term "detoxification" in regard to mercury is technically incorrect. It's more accurate to say that the body has the ability to capture and remove mercury but it can't detoxify it in the traditional sense.

To simplify my terminology when discussing mercury, I will use "detoxify" and "remove" interchangeably.

It should come as no surprise that mercury makes glutathione's job of protecting the body from other harmful substances much more difficult. The harm mercury can cause by interfering with normal metabolic function, increasing the amount of free radicals, and depleting the antioxidant levels is bad enough, but that isn't the end of its nasty nature.

What really makes mercury so harmful is that it usually takes two glutathione (GSH) molecules to attach to mercury before it can eliminate it from the body. This is one of those "good news, bad news" situations. The good news is that the body is able to get rid of mercury. The bad news is that in doing so it results in a net loss of its most important and potent antioxidant—glutathione!

This loss is even worse when the main source of mercury exposure (amalgam fillings) is still present. As a result the body is being continually exposed to mercury and over time will become increasingly deficient in the essential antioxidant it needs to continue to eliminate all the mercury that is entering the body.

The result is that under the stress of long-term (chronic) exposure to mercury the body isn't able to manufacture enough glutathione to keep pace. Even after the fillings have been removed everyone will begin with a serious deficiency of glutathione. If the lost glutathione is not replaced, the body becomes less and less effective at neutralizing free radicals and detoxifying and removing all harmful substances; not just mercury. This creates a downward spiraling cycle and can lead to a variety of symptoms and ultimately to serious degenerative diseases, such as cancer, heart disease, nervous system and autoimmune disorders, to name just a few.

Under such stressful conditions, the only way to insure that the body can make all the glutathione, and other antioxidants it needs, is to either provide the substance itself, or the raw materials that the body needs to manufacture them. Because the success of my detoxification program hinges on these substances, I'll discuss this in greater detail later in this chapter—and also in the chapter on supplementation.

How Mercury Accumulates

Unless you are allergic to mercury, recognizable symptoms of chronic mercury poisoning will not appear the same day you have mercury amalgam fillings placed in your teeth. It will take much longer for enough mercury to accumulate in sufficient amounts to express the numerous symptoms related to it.

But for the vast majority of people the amount of mercury that enters your body from these fillings, and other sources, will accumulate faster than your body can remove it. Once this happens it is no longer a question of mercury in—mercury out! From this point on, all the mercury that enters the body, that it is unable to remove, will start to build up throughout the body and brain.

At some point in this process, which can vary dramatically from person to person, the damage done by the accumulation of mercury will begin to affect your body in such a way that the first symptoms of chronic mercury poisoning will appear. Because so many variables are involved, the amount of time it takes to express these symptoms differs greatly for each person. Indeed, the appearance of symptoms and the overall effect of chronic mercury poisoning is a very individual thing.

When Do Symptoms Appear

At first, symptoms related to chronic mercury poisoning may be subtle and only show up occasionally. But as your body burden of mercury continues to rise, the related symptoms may become more consistent and appear—without any other obvious cause.

For example, if you fell and hit your head and got a headache, that headache could be attributed to a specific cause. But what if you got a headache, or a series of headaches, for no apparent reason? Certainly there are numerous causes of headaches, but one of them could very well be related to the effects of chronic mercury poisoning.

Removing mercury from your body takes on even greater significance if you already have symptoms or health issues directly associated to chronic mercury poisoning.

If the main source of mercury is not eliminated (amalgam fillings) and it continues to accumulate, signs of chronic mercury poisoning will increase proportionately, resulting in the appearance of more severe symptoms. Over time these symptoms will occur more often and won't improve and, for many, eventually culminate in disease or illness.

Why it Takes so Long for Mercury Related Symptoms to Appear

Another reason why it can take a long time for mercury related symptoms to appear is because mercury is so widely distributed throughout the body. This, in effect, dilutes the effect of mercury by spreading it throughout the body, preventing it from concentrating in a specific place. This means it will take a lot more mercury coming in to manifest a specific symptom. For example, if all the mercury that entered the body accumulated in the kidneys, or thyroid, its effect would be seen much sooner and be much more dramatic.

The ancient adage “the straw that broke the camel’s back” applies here. Without intervention, eventually enough mercury will accumulate in the body so that at some point, even a very small addition of it could be enough to cause a symptom to emerge. Keep in mind that the harm mercury does to your body begins at a cellular level and that damage begins long before you actually experience any recognizable symptoms of mercury poisoning. But also understand, that just because the damage done to a cell isn't experienced immediately doesn't mean the damage isn't taking place.

Removing the Source of the Poison: Filling Removal

The first step in any mercury detoxification process is to remove the source of the poison. But removing mercury amalgam fillings from your teeth does not mean it will somehow magically be removed from your body! The factors that determine how much mercury has accumulated in your body when you have your fillings removed are many. Generally speaking, it will be determined by:

- When your exposure to mercury from these fillings first began;
- How many fillings you had;
- How long you had them; and
- How much and how often they were stimulated.

But because mercury is so difficult to remove, and over time the body is less and less effective at removing the accumulated mercury, the majority of people will still have a high body burden of mercury even after the fillings are removed.

So don't think you are out of the “mercury” woods once these poisonous fillings have been removed. Even if you only have a few mercury related symptoms you must remove any stored mercury if you wish to do all in your power to eliminate them and achieve optimal health. Unfortunately there's no precise way to evaluate the damage mercury has done, nor what specific health problems it's causing.

If you're in good health, and have few or no symptoms of mercury toxicity, I believe that you can participate in my program without ongoing medical supervision, and without using a pharmaceutical (prescription) chelator. For you, my program will be preventive in nature, and you should not experience any side-effects related to detoxifying mercury.

Mercury Chelators

Throughout the book I'll be referring to chelators, both natural and pharmaceutical. While

some of the body's antioxidants act as chelators, pharmaceutical chelators are more effective at attaching to mercury and other minerals because they have a greater ability to pull them off what they are attached to and form a strong enough bond to safely carry mercury out of the body.

'Chelation' (key-lay-shun) is a Greek term meaning 'to claw'.

There is a tradeoff however, as unlike the body's natural chelating antioxidants; pharmaceutical chelators aren't intelligent or selective about what they remove. They will also indiscriminately remove a number of important substances the body requires to sustain health, such as zinc and copper. If a mercury detoxification program that uses pharmaceutical chelators is not properly designed and monitored, it could cause a depletion of these biologically necessary minerals, possibly creating a serious imbalance. This imbalance can result in many unwanted side-effects, comparable or even worse than those caused by mercury. Pharmaceutical chelators will be discussed in detail in **Chapter 9**.

The goal of strong mercury chelating agents isn't only to attach to mercury, but also to form a bond that is strong enough to make sure it can actually transport mercury out of body.

There are also weaker chelators, such as cilantro, called mobilizers. They have the ability to pull mercury off where it is attached, but are usually not strong enough to hold it until it has been removed from the body. It is believed that mercury can break loose from a mobilizer and form a stronger attachment to another protein, enzyme, or other substances. The result is that the mercury isn't removed, it's just redistributed.

Detoxification Pathways

The body's two main detoxification pathways that remove mercury are the liver and the kidneys. Up to 90% of the mercury the body removes naturally is via the liver, common bile duct, intestine and feces. In contrast, the most popular pharmaceutical chelators remove mercury via the kidney pathway. As I discuss in **Chapter 9**, the distinction is important. The other pathways are the skin, hair, and lungs but combined only remove a small amount of mercury per day.

There's a significant difference between chelating and removing mercury stored in the general body and chelating and removing the mercury stored in the brain. Without a doubt, it's much easier and faster to remove mercury from the former than the latter. Some chelators are more effective at removing mercury from the brain than others and they must be included in a mercury detoxification program.

You don't have to be a scientist or a health professional to understand the basics of detoxifying mercury from the body. In fact, if the support your body receives from you is sufficient and safely designed, it will do all the necessary work, regardless of whether you understand the biochemistry of the detoxification process. The science may be complicated but the concept is not.

Mercury Poisoning and the Child

I cannot leave this subject with commenting on the effects of mercury on the child. You have just finished reading about how poisonous mercury is; more poisonous than arsenic and lead. You've learned that even one atom of it is harmful, and that there is NO safe level for mercury. You now know that everyone with amalgam silver fillings is being poisoned by mercury, to one

degree or another, even if they don't yet express symptoms of chronic mercury poisoning. The truth is that you shouldn't be in the same house with mercury, let alone have it being released from your fillings 24/7.

Yet today, there are those who—in spite of all the evidence to the contrary—are still trying to convince you that it is safe to put mercury amalgam fillings into children's teeth! I know that these same people would never think of giving a child small amounts of arsenic throughout the day, every day. After all, arsenic is a known poison and everyone knows that even a miniscule amount of it is toxic. Yet mercury is far more poisonous than arsenic!

But some governmental regulatory agencies are more concerned about a child's exposure to fish contaminated with mercury than with amalgam fillings. For example, regarding mercury in fish, the Environmental Protection Agency (EPA) says that the amount of mercury intake per day should be limited to 0.1 microgram (mcg) per kilogram of body weight per day. If you take a 70 lb child that would translate into 3 mcg per day. The World Health Organization (WHO) has said that the intake of mercury from amalgam fillings can range from 3 to 21 mcg per day. In addition, some basic filling stimulation can release high amounts of mercury; e.g. brushing at 272 mcg and chewing at 68 mcg.

Of course they are talking about limiting fish intake to one portion per week. Yet the child with amalgam fillings can conservatively get 7 times that much mercury every day. Don't be fooled by anyone telling you amalgam fillings are safe for children.

But the child doesn't have the knowledge or a choice and someone must speak for the children regarding what is being done to them by ignorant dentists. Someone must stand up for them and say enough is enough and say no to the position taken by the American Dental Association (ADA) and its pro-amalgam dentists. This includes everyone else who through ignorance, arrogance, or greed promote the placement of these fillings in our children's teeth. I believe that to put these fillings in a child's mouth is morally and ethically wrong. I believe it is even criminal, particularly if the dentist who does this is aware that mercury is released from these fillings and thus is knowingly poisoning that child.

But although I'm being inclusive when I use the term child, it is your child I am speaking of here. It is your child who is being poisoned and the decision as to whether or not you want that to continue to happen is up to YOU! That choice should never be left in the hands of any pro-amalgam dentist.

Your children look to you to protect them and to do what is best for them. You can do your part by simply refusing to have these poisonous fillings placed in your child's teeth, and if possible have any that are there safely removed and replaced. I realize that there may be financial considerations involved but at least now you will be doing the right thing by making every effort to protect your child from mercury. If you plan to have children, or you know of someone who is, you will also want to read my comments about the cause of autism in [Appendix F](#), page 132.

If your child is healthy and has his or her amalgam fillings removed they may not have accumulated enough mercury to manifest symptoms related to chronic mercury poisoning. In this situation, once the source is removed the body should be able to, over time, remove what has accumulated. If your child does exhibit mercury related symptoms I suggest you arrange to have a fecal metals test ([Chapter 8, page 97](#)) done by your health professional. Ask for his or her guidance in modifying the dosage, and supplements used in my program, according to your child's weight and age. Done correctly a child can participate in a mercury detoxification program.

You can also help to support the effort to have mercury amalgam fillings banned. There is a petition I'm asking you to sign on my website and you can access it by going to www.dentalwellness4u.com/browse/guide.html and filling out the Join the Dental Wellness Institute notification list.

What's Next

In the next chapter I'll discuss a number of healthy changes you can make to support your program and make it even more effective.

Chapter 3

Additional Support for Your Mercury Detoxification Program

As you now know, if the body is exposed to more mercury or other harmful substances than it can handle, or if it's deficient in the antioxidants needed to detoxify and remove these substances, or both, a build up of mercury and other toxins will occur. Therefore, if the body is to be successful at removing mercury, the following conditions must be in place:

- The body must be provided with all the nutrients, vitamins, and minerals it needs to manufacture enough antioxidants, and other substances necessary to rebuild and maintain its defense system against the continuous onslaught of mercury, toxins, free radicals, and other toxic metals.
- The detoxification pathways and organs of elimination must be healthy and functioning properly.
- The source of the toxic substance must be removed, or reduced to manageable levels.
- The body must be provided with the supplements and nutrients it needs to repair the damage done to it by mercury.

Nutrients, Vitamins, and Minerals

Far too many people who had, or still have, mercury amalgam fillings, do not receive enough of the basic raw materials the body needs to produce enough of the antioxidants to eliminate the retained mercury. It's also essential to provide all the nutrients your body requires to repair the damage done by mercury to the general body and the brain.

In spite of what you may have been led to believe, your body can't make these substances out of thin air. If these substances aren't available to the body, it will become increasingly deficient in the antioxidants it needs to handle the ever increasing burden of toxins and pollutants. This is a lose—lose situation.

The simple fact is that, to be effective, a mercury detoxification program can't depend solely on your body's ability to manufacture enough of the substances, particularly glutathione (GSH), it needs to support the immune system. It must have intelligent outside support from you. Unless it gets this support in the form of vitamins and other nutritional supplements, the immune system will be weakened and will gradually fail in its role as the guardian of your health.

Healthy Detoxification Pathways and Organs of Elimination

To be effective at removing mercury, the main detoxification pathways and organs of elimination need to be functioning normally. For most people this isn't the case. This means it is important, if you have any health problems that involve these systems, to have them professionally evaluated before beginning a detoxification program. This is an absolute must if you use a pharmaceutical chelator.

In some cases, it isn't sufficient to simply provide the body with more of the substances that are specific for removing mercury. For example, if a person is chronically constipated, mercury will be passed into the intestine but it will not be regularly removed via the feces. This dramatically increases the possibility that the mercury that remains in the intestine for long periods of time will be converted to organic mercury; which is a form that can be readily reabsorbed into the body.

Additional Support Measures

An effective mercury detoxification program should not solely focus on removing mercury; it should also be directed at improving the overall health of your body. Toward that end, I will suggest other ways to support your natural health building mercury detoxification program and recommend that you make them a permanent part of a health maintenance program.

Diet, Nutrition, and Life-Style

Avoid harmful diets and life style practices. As much as possible, eat a healthy diet, reduce your exposure to harmful toxins, get moderate exercise and adequate rest, and avoid stress. I also advise against abusing prescription and non-prescription drugs, smoking, and drinking more than minimal amounts of alcohol. I suggest that you eliminate as much refined sugar, processed foods, and excessive quantities of meat and fatty foods as possible. Yes, I know this is a tall order, but make your best effort.

This is important as a number of health problems can be caused by poor nutrition and a lack of vitamins and nutritional supplements, even without exposure to mercury. But mercury can certainly make any health problem you may be dealing with worse. So, if you eliminate mercury but don't take good care of your overall health, some symptoms related to a poor diet and unhealthy life-style may still remain. **Mercury certainly can have a negative affect on health but it isn't the only thing you must deal with if you want to be as healthy as you can be.**

In addition, I recommend natural food products and adequate amounts of raw and lightly cooked vegetables. In Chapter 5, *What You Need to Know about Nutritional Supplements*, page 55, I'll focus on the supplements that are important for mercury removal and immune system support. However, I will not attempt to cover the vast subject of nutrition. Appendix K: *Resources*, page 147, does provides numerous reading recommendations.

Seafood

Recent studies, including one by Dr. Jane Hightower (published in 2002 by the *Environmental Health Perspectives Journal*), found that some of the larger ocean-going fish at the top of the ocean food chain often contain excessive amounts of organic mercury. The potential of excessive exposure to mercury from this source is so serious that the Food and Drug Administration (FDA) now recommends that children, pregnant and nursing women, and all women of child bearing age, do not consume **any** of the following fish:

Seafood to Avoid	
swordfish	grouper
sea bass	orange roughy
halibut	marlin
tuna	tile fish
shark	king mackerel

I whole heartedly agree but also recommend that **everyone**, not just those who have had the greatest exposure to mercury from their fillings and other sources, participating in my mercury detoxification program avoid them. In fact, it would be in your best health interests to permanently refrain from eating these fish. You can get the nutritional benefits of fish from other fish that are not contaminated with mercury. Although the fish on the **do not eat** list are very

good sources of omega 3 fatty acids, supplements that substitute this important nutrient are readily available. If you decide to dramatically reduce fish consumption, you should definitely supplement with omega 3.

Need more proof? Six ounces of fresh tuna can contain 68 micrograms of mercury; 6 ounces of albacore tuna can contain 35 micrograms (mcg) of mercury; and 6 ounces of swordfish can contain 170 micrograms of mercury. Compare this to the Environmental Protection Agency's (EPA's) maximum of 38.5 micrograms (mcg) of mercury intake per week for a 120-pound person. The EPA's suggestion that it is safe to take in 38.5 mcg's of mercury is disappointing and misleading to say the least.

How is it possible to recommend to someone, who is already mercury toxic from their amalgam fillings, and could easily be could be daily receiving 21 mcg of mercury from his or her fillings, that it is somehow "alright" to add even more mercury to their overburdened body? So don't be fooled by this.

Dietary mercury, especially the extremely toxic organic mercury found in contaminated fish, is the second greatest source of mercury exposure for humans. **No one** who is already mercury toxic from amalgam fillings needs to compound the problem by eating any fish that contains mercury.

The FDA also recommends that no one should eat more than 12 ounces per week of the fish listed as being safe. A typical serving size of fish is from three to six ounces. In addition, the EPA recommends that those in the mercury sensitive groups, women and children, restrict fish consumption to one meal per week.

Small fresh and salt-water fish are generally classified as safe to eat. Some of the safest are:

Safe Fresh & Saltwater Fish		
sardines	sole	tilapia
salmon	bass	trout

Water

Most people don't drink enough water. Drinking plenty of water, I consider eight, 8 oz glasses of water a day as the minimum, is an extremely important, yet an often overlooked aspect of any detoxification program. Essential to every bodily process, water is the medium that helps carry vital nutrients, minerals, vitamins, proteins, hormones and other chemical messengers to their final destination. Your need for it is even more crucial when you're undergoing a cleansing or detoxification process. Water helps flush wastes and toxins from all cells, helps eliminate toxins from the bloodstream and the skin, and supports the kidney's and liver's ability to detoxify.

One of the ways the immune and detoxification system functions is by transforming harmful substances into water-soluble compounds. Without adequate water intake, the immune and detoxification systems can't function properly. A lack of sufficient water has also been implicated in constipation and other health problems related to dehydration. Over time, insufficient water intake can generate unwanted symptoms and make the body more vulnerable to disease.

On an average day, it's possible to naturally lose two to three quarts (64-96 ounces) of water from the body. But there are substances that you should be aware of that can increase the loss of water, over and above what is normally lost. These substances are commonly referred to as diuretics. The most commonly used diuretics are caffeine and alcohol. If you consume large

quantities of them you will need to increase your water intake.

Although sugary drinks contain water, they're not good for you because of the sugar content. The wise and healthy thing to do is eliminate all drinks containing sugar and stick to water, natural fruit juices, and herbal teas.

Anytime you're in a cleansing or detoxification process, you must drink at least 8, eight-ounce glasses of liquid per day, spread throughout the day. It's especially important to drink sufficient amounts of liquid when taking the recommended supplements. Supplements in capsule form are very concentrated. Make sure you consume enough water when you take them, as it will help assimilation and reduce intestinal irritation.

If you're concerned about fluid retention, it's helpful to know that a reasonable water intake actually decreases bloating, because it helps flush out sodium and toxins.

In addition to the amount of water you drink, you also get water from food sources, especially raw fruits and vegetables, soups, and sauces. This is bonus water and should not be factored into the amount of water you drink. I suggest cutting back on water intake at least 2 hours before bedtime.

Exercise

Moderate exercise plays an important role in health but it can also increase the production of free radicals. During detoxification I recommend adjusting the amount of exercise you do to fit your particular situation. If you have serious health issues and your immune system is compromised, you should keep to a minimal exercise program. During this period, no matter what you've heard, you should never exercise to the point of becoming tired. As your health improves and your symptoms lessen or disappear, you will gradually increase your stamina and the amount of time you exercise. I also strongly recommend yoga, or tai-chi, or similar gentle stretching and movement, unless a physical problem prevents it.

Sweat Therapy

In terms of surface area the skin is your body's largest organ of detoxification. Under the right circumstances, small amounts of heavy metals are excreted from the skin. Any form of sweat therapy—from exercise to sauna—will be effective—as long as you sweat. I suggest you include in your program a weekly sweat therapy of your choice. But don't overdo it! Start slowly and build up as your body adjusts. Back off if you have any adverse side-effects, such as dizziness, headache, or nausea. Never take it to the point where you're uncomfortable.

During and following sweat therapy I suggest increasing your liquid intake over and above what you're normally drinking for the program. You should also wait two hours after eating before proceeding with any form of sweat therapy. Be intelligent about this and don't exhaust yourself to the point where you feel "wiped out" afterwards. As in all things, moderation will bring the best results.

There is some evidence that infrared saunas are effective at helping the body remove mercury and other toxins. I've also been told by some people that their symptoms improved after utilizing the infrared sauna. While I can't site this as conclusive evidence, if it is used properly it can't do any harm. Again, how the body decides to detoxify is very individual and what works for some doesn't always work for others.

Moderate sweating can have effects similar to those of exercise. All those whose health status dictates that their exercise program should initially be limited should also begin slowly with hot baths and saunas.

Colonic/Enema Therapy

Because intestinal health is so important to overall health and because the intestine is the main pathway for mercury elimination, I believe that you should consider including colonics as a part of your detoxification process, at least during the early stages. Periodic colonics and enemas help the body flush mercury from the colon and can prevent its re-absorption into the body. However, some health conditions may preclude colonics or enemas. If you're concerned I suggest asking your health care practitioner if he feels they would be appropriate for you. If you get the OK, ask how many colonics or enemas would be beneficial during the detoxification process.

Massage

I feel that massage is a valuable addition to any detoxification/cleansing program. It supports the body's efforts to detoxify by helping to relieve some of the more common symptoms of detoxification, such as headaches, myalgia (muscle pain), and fatigue, that some people may experience in the early stages of detoxification. Massage can also help by improving the function of the organ or system affected. In addition, massage helps stimulate the lymphatic system to flush out toxins and promotes the elimination of toxins by the kidneys and liver. Since your body will be working hard to remove mercury, massage is also a nice way to reward its efforts.

Lymphatic Stimulation

The lymphatic system is one of your body's most important systems for fighting foreign substances, including bacteria and viruses. Because most of the body's five types of protective white blood cells are found in the lymphatic system, the proper functioning of this system is crucial for detoxification. Unlike the circulatory system, the lymphatic system doesn't have a heart to pump and it must rely on muscle contracting and movement to literally push the lymph through the body. There are a number of ways to stimulate the flow of lymph and I recommend the following:

Lymphatic draining massages: These can be very beneficial but make sure you see a trained lymphatic massage therapist.

Bouncing: This is a gentle way to stimulate production of white blood cells and speed their circulation through the lymphatic system. As little as five minutes of moderate bouncing—three to five times per day—preferably on a mini-trampoline called a rebounder, can dramatically improve the health of the lymphatic system.

Rebounders are usually circular, about three feet in diameter, and can easily be used at home. A rebounder is a great health investment, as bouncing on it is also gentle on the joints. If your health permits, it's also a good way to get some aerobic exercise at the same time, especially on rainy, snowy, or cold days.

Rotating your joints: This is a very natural way to stimulate lymph flow that doesn't involve any equipment. The exercise involves slowly rotating every joint, like the wrist, ankle, leg, hips, and neck. The slower you can rotate these joints the more effectively you'll pump lymph through the lymphatic system. When I say slowly, I mean **slowly**—with each rotation taking a count of 10 to complete—alternating left circles with right circles. A few minutes on each joint, twice or more per day, is very beneficial. This form of lymph stimulation can be

done virtually anyplace, including in the shower, while walking, and while watching TV. Of all your body's defenses the lymphatic system usually gets the least amount of attention. These simple exercises can contribute greatly to the body's detoxification and healing processes.

Dry Brushing

Many believe that dry brushing the skin with a natural-bristle bath brush, or loofah mitt, before bathing helps the detoxification process by removing toxins and toxic byproducts from the skin surface. Brush in a circular motion, always moving the brush toward the heart. Avoid brushing the face, genital areas, or over any existing skin problem.

Psychological/Spiritual

Mental and spiritual health plays an important and valuable part in any health and healing program. I suggest making every effort to become involved in a group or program that supports the principals of physical, mental, and spiritual health.

Many people I consult with have become very discouraged with their health condition. This isn't surprising as some of the symptoms of chronic mercury poisoning are emotional and psychological, including anxiety, fear, and depression. Participating in a detoxification program can bring a sense of hope to a person dealing with mercury toxicity, and finding psychological/spiritual support can be very helpful. I personally believe in the concept of mind/body/spirit and all three need care and attention if you are ever to achieve optimal health. Finding this kind of support is highly individual and I urge you to find a system that works best for you.

Summing it Up

This completes my brief overview of the detoxification process, including what you can do to support your mercury detoxification program. The chapters that follow provide detailed information about the specifics of the program, including supplements, nutrients, monitoring, chelation drugs, testing, and protocols that are invaluable in mercury removal.

Chapter 4

What You Need to Know about Vitamins

Although more people than ever are taking vitamin supplements, I realize that there will be many who may be new to using them. Therefore, I want to make sure that I provide a basic background in vitamin supplementation. (If you're very familiar with them, you can skip this section and move on to the next.)

Although the supplements I recommend have many other health benefits, I'll limit my discussion to their specific role and value in the detoxification of mercury and in brain and intestinal support.

There are those, including health professionals, thankfully in diminishing numbers, who still believe that a healthy diet provides all the vitamins, minerals, and other health sustaining nutrients your body will ever need. I agree that this may be possible—but only if you eat a perfectly balanced diet and your food is grown without pesticides in fertile soil. A significant portion of your diet would have to be eaten raw or lightly steamed—and thoroughly chewed. Also essential are a toxic and stress free environment, uncontaminated water and air, a healthy physical and spiritual life style, and the proper amount of exercise. To begin with, your body would need to be disease free and in a state of optimal health, with no impairment of the immune, detoxification, or other vital systems. To achieve this state of health you would need to start this life style at birth, plus having no, or minimal, exposure to mercury during your lifetime! Whew, desirable but difficult to obtain!

While I completely support such a diet and life-style, I believe that few, if any people live under such ideal conditions. Given the fact that most diseases are the result of either not providing the body with enough essential nutrients or from exposure to too many harmful substances, or both, it's essential to make certain the body has everything it needs to protect itself.

This means reducing exposure to harmful dietary substances (such as saturated fats, preservatives, and sugar), eliminating toxins and poisons, and getting the proper nutrients to promote health and healing. These goals are even more critical if one already has an existing health issue, is exposed to highly toxic environmental conditions, and has accumulated mercury.

Don't Fall Prey to an Uneducated Health Professional

I mention the important relationship between vitamins and disease so that you won't fall prey to an uneducated health professional, who with the best of intentions, tries to dissuade you from supplementing your diet with vitamins. I consider anyone who has had mercury amalgam fillings for any length of time to be unhealthy—to varying degrees perhaps—but nevertheless unhealthy. I doubt that you'd be reading this book if you thought your health was ideal, or if you didn't want to improve it.

A disease doesn't happen overnight. Over time, an ever-increasing number of related symptoms will precede a disease and unless something changes, these symptoms will eventually coalesce and be called a disease or syndrome; such as chronic fatigue syndrome or heart disease. Let there be no doubt, if the disease and its causes aren't adequately dealt with, the disease/condition will continue to worsen. Depending on the situation, the result may be an

increase in unwanted symptoms, leading to a permanently debilitating disease, or even death.

The vitamins included in my detoxification program are not only designed to support your body's efforts to remove mercury, but to insure that your body has everything it needs to prevent and fight disease and sustain health. They also support your immune and detoxification systems. While this program is specifically designed to target mercury, all the vitamins and supportive products I recommend have many other important health building benefits.

All of my recommended vitamins and mineral supplements are covered in this chapter. I also discuss their specific role and value in supporting a mercury detoxification program, my recommended dosages, and possible side-effects.

Nutritional Content of Your Diet

A number of factors will determine what you get from what you eat. There are books that estimate the nutritional value of a specific portion of a food, such as how much vitamin C is in a 6 oz glass of orange juice, or how much beta carotene is in a 4 oz portion of carrots. I acknowledge that foods, especially organically grown foods, contain many essential and bioavailable vitamins and other nutrients, but I haven't attempted to include what you may be receiving from your diet to what I recommend in my program. I've not done so because I feel that:

- Most foods are grown in depleted soil, minimizing their nutritional content;
- Most food processing can destroy essential vitamins and nutrients;
- Most foods are overcooked, again destroying vital nutrients;
- The vast majority of people do not chew their food thoroughly, reducing the amount of nutrients available for absorption; and
- Many people don't have a healthy digestive system, limiting what will be absorbed after it's been ingested.

Because of these factors, it's virtually impossible to accurately determine the amount of all of the essential vitamins and nutrients anyone actually receives from their diet. Yet, far too many people continue to believe they will get all the vitamins and nutrients they need from food. I happen to disagree with this philosophy and I'll give you some 'food for thought' so you can make up your mind about it.

Simple Logic

Simple logic dictates that if your diet supplied all the vitamins and nutrients you needed to eliminate mercury and maintain optimal health, you wouldn't have mercury stored in your body, have symptoms of chronic mercury poisoning, or have any of the many degenerative diseases that can arise due to a deficiency in the essential vitamins and nutrients. Think about that statement for a moment! Good.

Now think of what would it mean if after you started taking the supplements I recommend, that some or all of your existing symptoms were relieved and your overall health improved? You got it! It would logically mean that there is a good chance that you weren't getting enough of them in your diet in the first place! The proof of the pudding is in its eating . . . or something like that.

The health of everyone who is mercury toxic has been seriously compromised and the body hasn't been able to make enough of what it needs to remove it and heal the damage done by it. Why, because if it could it would! The body doesn't think about whether it wants to be healthy

or not, it simply does the best it can to do so; often in spite of what we might think about it. My belief is that if you have any symptoms or diseases related to chronic mercury poisoning, you should never depend on receiving all the nutrients you need through your diet, even if it's a healthy one. Because of this I make sure the dosages I recommend are what are needed to support my detoxification program.

Of course you will receive some essential nutrients from your diet, but instead of counting on them, you should look at what you get from food as a bonus.

What Brand of Vitamins Should You Use?

Some who will be participating in my program have been taking the same brand of vitamins for years and are comfortable with their choice. I see no problem in continuing with your favorite brand of vitamin, but you may find that the dosage you've been taking will have to be modified. In addition, some vitamins may need to be added to what you are presently taking.

How Much Should You Take?

In general, my approach to dosage is more conservative than many mercury detoxification programs. I feel this is an appropriate approach because I believe it's vital that the treatment shouldn't become more stressful or harmful than the health problem itself. Second, I view every participant as being unique and it's unlikely that any two people are exactly the same in terms of:

Their level and extent of mercury exposure and toxicity;
Their age and weight;
The state of their overall health; and
The status of their immune and detoxification systems.

To make certain that everyone who participates can tolerate the supplements I recommend, my philosophy is to **start low and go slow**. For some it could mean they start by taking lower doses of the program's recommended dosage of supplements. It could mean it will take longer to eliminate mercury and reduce or eliminate your mercury-related symptoms. In most situations this is a highly acceptable trade off when compared to experiencing unwanted side-effects of taking too much of something.

On the other hand, compared to the dosages that the Food and Drug Administration guidelines, my starting dose would be considered to be very high. The FDA's recommendations are being challenged and an ever increasing number of scientists and health professionals feel that government standards for supplements are arbitrary and far too low. I wholeheartedly concur.

For example, its recommendation for Vitamin C is 60 mg per day. Anyone who knows anything about vitamins would know that this might keep you from getting scurvy but is not even close to providing what the average person should have for optimal health. And what is even sillier, is that this is the dose they suggest for everyone, and it doesn't take any other factors into consideration, such as age, weight, state of health, diet, etc.

The FDA's recommended dosages are much lower than needed to help remove mercury and restore health. They're certainly far lower than the amounts needed by those whose symptoms and health issues already indicate a deficiency in many essential supplements. In this group I'd include everyone who is mercury toxic. At best, I regard the government standards at the *extreme*

low end of basic maintenance levels; only appropriate for that small percentage of people who are already in a state of optimal health.

The amount of essential vitamins needed by an individual can also vary greatly, even from day to day. We don't have a vitamin gauge attached to our bodies to monitor our exact hourly or daily requirements. Because it's important to provide the body with a sufficient supply of nutritional supplements every day, I'd much rather take a little more than less. If the amounts taken are more than the body needs it simply uses what it needs and excretes what it doesn't need. The body is brilliant in how it works! (The exception to this rule is consuming excessive amounts of fat soluble vitamins, such as A and E, because they can accumulate in the cells of the body.)

What if You are Now Taking More than I Recommend?

If you're presently taking any of the vitamin supplements or nutritional products at a higher dosage than I suggest, and you haven't had any side-effects, I encourage you to continue with the dosage you're now taking. If you're taking less than my recommended dosage, then increase it to my recommendations. If you're under the care of a physician and he/she has prescribed drugs or recommended a supplementation program, please ask if there are any possible contraindications to what I recommend, including the dosages.

Remember, there are still health professionals who don't believe in vitamin supplementation—for any reason! There are also those who won't vary from what's now commonly referred to as the % of Daily Value (% DV), a suggested government standard for supplements. This is one of the reasons I've included a Directory of Alternative Health Professionals, those who are generally more knowledgeable regarding vitamin and nutritional supplements, on my website, www.dentalwellness4u.com/freeservices/find_health_pros.html. (More and more names are being added so if you don't find one in your area, keep checking.)

The % of Daily Value was previously known as the RDA (recommended daily allowance), or MDR (minimum daily requirement), or the RDI (recommended daily intake).
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What Supplement Labels Tell You

Before introducing the vitamin and supplements that I recommend, I want to briefly discuss how to read the labels. Once you understand the terminology, the labels provide a great deal of important information, making it easy to find the supplements I recommend, and in the correct amounts. Before you read this section it would be helpful if you have a bottle of any supplement next to you so you can actually see what I'm talking about. But if you don't have any I've provided some sample labels.

Ingredients

On most vitamin containers there will be a list of everything found in **each** tablet. This will include vitamins, minerals, and nutritional supplements, along with other ingredients, such as binders, fillers, coatings, granulators, and disintegrators. There are **always** binders and fillers in tablets, but capsules sometimes contain them too. If you're sensitive to certain chemicals or foods, or have numerous environmental allergies, I encourage you to check the "Other Ingredients" list for every supplement you take.

Other ingredients can include: Gelatin, polyethylene glycol, dicalcium phosphate, silica, cellulose, stearic acid, acacia gum, magnesium stearate, silicon dioxide, and pharmaceutical glaze.

Most quality vitamin labels also list what their tablets **don't** contain. It's important to check this list, especially if the label doesn't list 'Other Ingredients'. Here's an example of what a supplement **may not contain**:

Does not contain: Sugar, egg, wheat, corn, glutens, salt, starch, dairy, soy, animal or fish derivatives, preservatives, or artificial colors and flavors.

Supplement Facts

You'll find **Supplement Facts** on the labels of most quality brands of vitamins and other nutritional supplements. Each vitamin/supplement manufacturer has its own philosophy regarding the amount of vitamins, minerals, or supplements it packs into each capsule. If you are new to the world of supplements this information is crucial when attempting to compare vitamin brands and in determining how many capsules you'll have to take to get what you want.

Amount per serving

This lists the amount of each particular vitamin, mineral, or other substance you will get with each *Serving Size*.

Serving size

This tells you how many capsules you have to take to get what is listed in the *Amount per Serving*.

% Daily value (% DV)

This allows you to compare the *Amount per Serving* with the FDA's recommendations. The **key** to understanding how these *Supplement Facts* work is that it may often take more than one capsule to supply the *total* amount of a supplement listed under *Amount per Serving*. Until you understand how this works, it can be confusing.

I've found that far too many people think that what they see on the label under *Amount per Serving* will be provided by just one capsule. Yet this is rarely the case. A picture is worth a thousand words, so let's look at a condensed sample of a multiple vitamin label so you can visually see what I mean.

Label for a Multiple Vitamin		
Supplement Facts		
<i>Serving Size: 4 Capsules</i>		
<i>Name</i>	<i>Amount per Serving</i>	<i>% Daily Value</i>
Vitamin A (from beta carotene)	25,000 IU	500%
Vitamin C	1000 mg	1668%
Vitamin D	400 IU	100%
And so on with other vitamins and minerals listed		

If you only happened to look at the *Amount per Serving* it would be easy to think that each capsule contained the amount listed, or 25,000 IU (International Units) and that each capsule provided the listed *% Daily Value of 500%*. But when you check to see how many capsules it actually takes to produce what's listed in *Amount per Serving*, the outcome is quite different.

Do the Math

For example, in the above sample label, it will take a *servicing size* of 4 capsules to get what's listed under *Amount per Serving*. In order to find out the amount contained in *each* capsule you have to divide the *Amount per Serving* by 4. Thus each capsule in the above sample label would contain only 6250 IU of vitamin A, only 250 mg of vitamin C, and only 100 IU of vitamin D. (Note also that it will take 4 capsules of vitamin D to provide 100% of the Daily Value.)

So you can see how important it is to '**Read the Label**' as you could be thinking you are getting all you need in just one capsule but in reality you are only getting 25% of it! Of course, if you continued taking them for an extended period of time and your health didn't improve you could easily be led to believe that the vitamins didn't work.

I emphasize this because I want to make sure you're actually getting as much as you think you are. If you get fooled it can affect the outcome of the detoxification program. Also, as some people have a difficult time taking supplements and can become discouraged when having to take so many capsules, finding a brand with more ingredients per capsule would make it easier to comply with the program. My solution is to make sure you check the label and get what you need in the fewest number of capsules.

Spread Them Out

The exception to this rule is taking supplements that are more beneficial when spread throughout the day, such as multiple vitamins, vitamin C, and minerals. But the theory still applies. For example, I recommend that you take a minimum of 1000 mg of vitamin C, 3 times a day. To accomplish this you could take 12 capsules of a 250 mg dose or 3 capsules of a 1000 mg dose. When you are purchasing the supplements I recommend and you want to minimize the number of capsules you will be taking—**Don't Forget to Read the Label**.

To simplify terminology, I use 'tablet' and 'capsule' interchangeably for the remainder of the book. The recommended supplements could come in either form. If you prefer capsules, but some of the supplements you want to take aren't available in capsules, you will need to get them in tablet form.

% of Daily Value (% DV)

The % of Daily Value is the term the FDA uses to indicate its recommended daily dosage for certain supplements. This recommendation can be expressed both as an amount and as a percentage. For example, if a label indicates that the *Amount per Serving* of vitamin C provides 60 mg, and lists the % DV as 100%, this means that 60 mg of vitamin C will supply the **total amount** the FDA **suggests** you take per day. If a label shows that the *Amount per Serving* of vitamin C is 240 mg, the % DV would be 400 %, or four times what the FDA suggests.

Interestingly, the FDA states that these figures are only suggested amounts, and should only be used as a reference to give people some perspective on **what the government believes** an individual's overall daily dietary needs are. As I've stated, not everyone's health status is the

same and neither are their daily vitamin requirements. There are weight differences, dietary differences, toxic exposure differences; to name just a few of the many variables involved.

For the FDA to suggest that everyone should be taking the same dosage is, to say the least, extremely naïve. Of course in saying it only ‘suggests’ an amount, the FDA really means that they can’t be held responsible if you follow their suggestion and end up with a vitamin deficiency—and a health problem related to that deficiency. Another way to put it is: **Buyer Beware of the FDA’s Recommendations!**

What we know today about supplements—how they function, their vital role in maintaining health and fighting disease, and what amounts people need—is light years ahead of what was known in 1973; when the FDA first made its recommendations. Yet the 1973 FDA standards are still being used today. The good news is that the FDA is considering revising its arbitrarily low levels.

You may also see another symbol listed under the % DV (percent of daily value) heading and it will look like something like this †. That symbol means the FDA hasn’t established a daily value for that nutrient. But just because the FDA/government hasn’t established a *daily value* doesn’t at all mean that the body doesn’t need it, or that it isn’t important and valuable to your health.

When to Take Them

Most vitamin and nutritional supplement labels include recommendations for how many to take and when to take them. In the section where I discuss the supplements that I recommend, I also provide more detailed guidelines on taking them than you’ll find on vitamin labels.

Keep in mind that the benefits you receive from taking supplements increase if they’re spread throughout the day. Taking one multiple vitamin at breakfast and one at dinner is more effective than taking two at the same meal. Spreading out the dosage isn’t always possible or practical, but strive to follow this philosophy.

Warning Labels

Some supplements come with warnings, mostly related to keeping them from children under six and their use by pregnant or breastfeeding women.

I encourage you to read **everything** on the products label and to consult with your health professional if you have any questions that I haven’t answered. While I personally haven’t encountered, or heard of, any problems with side-effects at the doses I recommend, there are always exceptions to every rule. (In a later section I discuss the potential dose-related side-effects of supplements included in my program and how to deal with them.)

Delivery System: Capsules versus Tablets

The question of which delivery system—capsules, tablets, or time-release capsules—is the most effective is a relatively new discussion. There are many opinions but as yet no consensus. Below, I briefly discuss the pros and cons of each delivery system so that you can decide for yourself.

Capsules

The most common capsules are made of gelatin. You can recognize them because you can see through them and they can be pulled apart. If gelatin is a substance you must avoid then these

capsules may not work for you. Some vitamin companies are now offering vegetarian capsules for those who refuse to consume any animal products.

Because of their shape and softness, capsules are usually easier to swallow than hard tablets for most people. They also dissolve quickly and release all their ingredients at the same time, resulting in maximum absorption of their contents. Another advantage is that capsules can be opened and mixed with food if swallowing capsules or tablets is too difficult, or impossible.

Capsules are free of coatings and artificial colors, although coloring can be added to the ingredients. One of the most impressive benefits of capsules is that they need not contain any of the binders and fillers that tablets require. A few vitamin companies may still put binders and fillers into capsules, so please read the labels for “**Other Ingredients**” if you’re prone to allergies and food sensitivities.

I believe that more and more vitamin companies will continue to switch to the capsule form. Tablets are less expensive to produce but they’re often exposed to heat and pressure during manufacturing, which could reduce the potency of the contents.

Tablets

If you don’t have any allergies to the binders and fillers used in tablets, or any trouble swallowing them, tablets will still provide you with what you need. They’ve been around longer than capsules and are still commonly used in the vitamin and pharmaceutical industry.

I believe they are still so prevalent because most companies have invested in machines that make tablets and because they are less expensive to produce than capsules. One advantage of tablets is that more material can be compressed into a tablet than can be put into a capsule of equal size, which can decrease the number of supplements you need to swallow each day. The reason so many binders, fillers and coatings are used is to make sure everything holds together.

Some tablets are designed and tested to be dissolved by the hydrochloric acid (HCL) in the stomach. If you have a deficiency of HCL the tablet may not dissolve completely. As a result, even though you’re taking the dosage you require, the tablet may not completely dissolve and you may not be absorbing the amount that you swallow. **The truth is that we are not what we eat, but what we absorb!**

If you know or suspect you have an HCL deficiency I suggest asking your health professional about hydrochloric acid supplements. Supplementing with HCL should be done under the supervision of a health professional.
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Time-Release Tablets or Capsules

The time-release capsule/tablet, which is relatively new, releases its contents slowly over three to six hours. The main advantage is that they are able to provide the body with smaller doses, delivered throughout the day. In general, time-release capsules/tablets are most desirable for water-soluble vitamins and supplements, such as vitamin C, which are more effective when spread throughout the day.

The use of time-release capsules/tablets is increasing, but many supplements aren’t yet available in this form. There continues to be some debate about how effective this delivery system is, as some feel that not everything that’s released may actually be absorbed. With capsules and tablets the supplement is released at once and has a better opportunity to be absorbed. The jury is still out on that but the concept is great.

Softgel Caps

Softgel caps are relatively new and because they completely seal the vitamin or nutrient inside the gel cap they can be used for fat soluble vitamins and other light sensitive nutritional supplements. These include vitamin E, lecithin, vitamin A, and omega 3 and 6 fatty acids. This innovative delivery system has the advantage of preventing fat soluble substances from becoming rancid and because they are soft, it makes them easier to swallow. I suggest that they be refrigerated or kept in a cool dark place.

Shapes

The shapes of vitamins have changed dramatically over the years. When pills in tablet form first appeared they were mostly round or oval. Many pharmaceutical companies still use this shape, probably because the throat is oval, or round when distended. The round or oval shape works particularly well with pharmaceutical drugs because, in general, the dosage for drugs is much lower than for nutritional supplements and the tablets can be made very small, therefore much easier to swallow.

More recently, the oblong, tapered shape has appeared on the scene. I think that for most people, the new shape is much easier to swallow. Some vitamin companies produce very large and thick oblong tablets in order to pack more vitamins or nutritional supplements into each one. This is a plus for those who can handle the large size but not for those who have trouble swallowing larger tablets. For those people, they will need to take smaller sized capsules, and take more of them per day, to get the desired amounts. The advantage is that they'll be easier to take, so it may be a worthwhile tradeoff.

If You are Not Taking Supplements

If you're presently not taking any, or only a few supplements, my recommendation is to closely follow my directions regarding dosage.

If You are Already Taking Supplements

If you're currently taking supplements I suggest you use the Supplement Schedule Charts I provide in **Appendix G** to compare your supplement dosages to those I recommend for my program. Additional information on dosage can be found on the *Comparing Supplements and Special Instructions* chart in Chapter 5, **page 63**.

If you are now taking higher dosages than I recommend, please continue what you're taking, but follow my directions as to when to take them. If you find there are supplements that I recommend that you're not presently taking, simply add them and follow the directions for use on the Chart(s) and begin the program as directed. You may also be taking supplements that I don't include, and I suggest that you continue taking them.

Matching Supplements

If you're now taking supplements, but find you are taking less than what I recommend, there are two courses of action open to you.

The easiest and fastest way to match the supplements you are presently taking to what I recommend is to start from scratch by purchasing them in the dosages I recommend. That way you'll only need to follow my **Supplement Schedule Charts**.

If you're already taking some of the vitamins, minerals, and other nutritional supplements I recommend, but at lower dosages, you should do your best to line up what you are now taking with what I recommend.

For example, if I recommend 100mg of R-lipoic acid (ALA) three times per day and you have 50mg capsules . . . you would have to take 2 capsules 3 times per day to get the equivalent amount.

Once you use up the supplements you have on hand, you can get them in the amounts I recommend for the program when you next purchase them.

Vitamin Descriptions

This section describes the vitamins that play important roles in the detoxification program, along with my recommended dosages. In some cases, I include special instructions.

Vitamins

Many mercury detoxification programs only include supplements that they believe will specifically remove mercury. While targeting mercury is purpose, I believe that it's also important to provide the body with **all** of the essential vitamins needed for total health. My approach is easier to understand now that you know how chronic mercury poisoning can harm every aspect of your health.

What must also be understood is that a total absence of any vitamin will eventually lead to symptoms that are specifically related to the deficiency of that particular vitamin. In addition, because all vitamins are interrelated, a deficiency of any one of them can reduce the effectiveness of all the others.

As a vitamin deficiency continues, more symptoms related to that deficiency will appear and other areas of health are affected. For example, scurvy—the disease caused by a lack of vitamin C—ultimately results in death if none, or very little, vitamin C is provided over an extended period of time, about six months or so. But it won't take long after the deficiency begins for early symptoms related to a lack of vitamin C to appear. An entire range of symptoms can appear long before the deficiency results in serious illness or death, such as bruising and gum disease.

Vitamins also play a critical role in the detoxification process. Even if a vitamin or mineral isn't specifically involved with mercury removal, a vitamin deficiency reduces the overall effectiveness of the immune/detoxification system. For example, a deficiency in vitamins that play a direct role in the health of the liver, kidneys, and intestine, will affect the body's ability to remove mercury.

It is also critically important to have an adequate supply of vitamins and minerals to help the body repair the damage done by mercury. This can't be overlooked and must be taken into consideration if you want to eliminate the symptoms and diseases related to chronic mercury poisoning.

Vitamins are much more efficient in preventing a health issue than in treating a symptom or curing a disease. For example, vitamin C is much more effective in helping to prevent a cold than it is at curing a cold.

The bottom line is that the body needs adequate amounts of vitamins on a daily basis if it's to fight off infectious diseases, effectively deal with free radicals, remove heavy metals, and sustain an optimal state of health.

Multiple Vitamins

The sample label below will make finding the right multiple vitamin easy as it lists specific

vitamins in the amounts I recommend. This label also lists the minimum number of essential vitamins I suggest—but some brands will contain more, or less, than is listed here. Many multiple vitamins also contain essential minerals in varying amounts. It is not necessary to find a multiple vitamin that includes minerals, since I recommend a separate multiple mineral formula. But most good brands include them, even if in smaller amounts and that's a bonus.

Fortunately, the majority of vitamin producers list their ingredients in the same order, which makes it easy to compare different brands. In fact, you could take a copy of the pertinent pages, to your health food store, and use the label to find a multiple vitamin with comparable dosages.

Some health professionals may recommend a more potent multiple vitamin, especially where the B vitamins are concerned. I'm not opposed to that but if you've never taken vitamins on a regular basis, I believe that it's best to start with my recommendations. You can always increase the dosage if you have no side-effects. This will be consistent with my philosophy of starting low and going slow.

The following label lists the total amount of each vitamin found in the **multiple vitamin I** recommend taking each day. This is the amount I consider to be the minimum necessary to begin the program.

Multiple Vitamin Recommendations		
<i>Serving Size 2 Capsules</i>		
<i>Name</i>	<i>Amount per Serving</i>	<i>% Daily Value</i>
Vitamin A (from beta carotene)	25,000 IU	500%
Vitamin C	500 mg	832%
Vitamin D	400 IU	100%
Vitamin E	400 IU	1333%
Thiamin (B1)	25 mg	1666%
Riboflavin (B2)	25 mg	1470%
Niacin (B3)	100 mg	500%
Pyridoxine (B6)	25 mg	1250%
Folic Acid (folate)	400 mcg*	100%
Vitamin B12	100 mcg	1666%
Biotin	300 mcg	100%
Pantothenic Acid (B5)	50 mg	500%

* mcg (microgram; 1 mg equals 1000 mcg)

It may be possible to find a multiple vitamin that provides the total recommended amount in one capsule. But I recommend that you get the amounts listed above in two capsules and take one capsule at breakfast and one at dinner. The advantage is that you'll spread what you're getting throughout the day, which is more efficient than taking them at one time.

In addition to vitamins and minerals, most quality multi-vitamins contain other important nutrients, such as those shown below. Some will contain less and some more. Some of these ingredients are included in my program, and others aren't. Thus, finding a multiple vitamin that contains everything listed here isn't critical to the success of the program. But I believe the more of these listed below that are found in your multiple vitamin, the better.

Other Nutrients in a Multiple Vitamin		
<i>Name</i>	<i>Total Amount</i>	<i>% Daily Value</i>
PABA	Varies	†
Choline	Varies	†
Inositol	Varies	†
Bioflavonoid Complex	Varies	†
Hesperidin	Varies	†
Rutin	Varies	†
Co-enzyme Q 10	Varies	†
Boron	Varies	†
N-Acetyl Cysteine (NAC)	Varies	†
Alpha-Lipoic Acid	Varies	†
Ginkgo Biloba	Varies	†
Betaine (TMG)	Varies	†
Milk Thistle	Varies	†
Bromelain	Varies	†
Glutathione	Varies	†
MSM	Varies	†
DMAE	Varies	†
Grape Seed Extract	Varies	†

Vitamins Specific to Mercury Detoxification

Following are descriptions of vitamins that play a more specific role in mercury detoxification.

Vitamin C

Vitamin C (ascorbic acid) is a powerful antioxidant that can neutralize free radicals and is believed to enhance the body's ability to remove mercury from the blood. Some believe that vitamin C can chelate and remove mercury and other heavy metals from the body but that has not been proven conclusively. New evidence suggests that vitamin C may play a role in protecting the body from the effects of mercury and indirectly help in eliminating mercury by stimulating the production of glutathione (GSH) and helping to repair damaged glutathione. (Remember, glutathione is the body's main defense against mercury and other heavy metals.) This makes it an important supplement for those who still have mercury amalgam fillings.

Vitamin C is available in different forms and there's no universal consensus about which form is best. I recommend using vitamin C in the ascorbate form. There are different ascorbates, the most common being calcium, potassium, and magnesium ascorbate. Because the ascorbate form is naturally buffered it shouldn't cause stomach irritation in moderate amounts. I suggest that the brand of vitamin C you select should also include bioflavonoids. Here's an example of what to look for in a vitamin C supplement:

Vitamin C Recommendations		
Serving Size: 1 capsule		
<i>Name</i>	<i>Amount per Serving</i>	<i>%Daily Value</i>
Vitamin C	1000 mg	1666%
Bioflavonoid complex	500 mg	†

You'll find vitamin C in various dosages, from 50 mg to 1000 mg or more. I recommend a brand that provides 1000 mg of vitamin C per capsule/tablet. This way you can still take them throughout the day but if you get capsules with less Vitamin C you'll end up increasing the total number of supplements you'll be taking each day.

Bioflavonoids

Sometimes referred to as vitamin P, bioflavonoids are a group of water-soluble substances that act as vitamin-like nutrients. The human body can't produce them, so you must get them from your diet or supplements. Bioflavonoids enhance vitamin C absorption and amplify vitamin C's effectiveness in promoting circulation, boosting immune response, and other necessary functions. Bioflavonoids are also recognized as effective antioxidants. They work in unison with other antioxidants to protect vitamin C from being oxidized (rendered ineffective in the body), thereby allowing vitamin C to function more effectively and for a longer period.

Many manufacturers of multi-vitamins and vitamin C include a bioflavonoid complex in their formulas. I recommend finding one that does but if you're taking vitamin C in its pure form of ascorbic acid, you'll need to supplement with a bioflavonoid complex.

While found in all plant pigments, particularly good sources of bioflavonoids include citrus rinds, rose hips, grapes, blackcurrants, grape seed extract, green tea extract, and extract from pine tree bark. Most bioflavonoid complexes include the following bioflavonoids; citrin, rutin, hesperidin, quercetin, flavones, flavonals, and calechin.

Vitamin E

Vitamin E is another powerful antioxidant. It protects cell membranes and other fat-soluble parts of the body. Mercury is very destructive to the cell membrane and other fatty tissue, especially in the brain.

Minerals

Minerals are no less important than vitamins in helping repair the damage done to the cells and tissues. Toxic heavy metals, especially mercury, compete with necessary minerals, particularly zinc and copper, for sites on enzymes and proteins. Because mercury has a greater attraction for sites where these essential minerals are attached, it can literally knock the minerals from the site and take their place. In doing so the normal biological function of those substances is inhibited and eventually lost.

Often, the metals and minerals that mercury has kicked off are flushed from the body. If they're not replaced it is possible for a deficiency to occur, particularly because as the body attempts to heal the damage done by mercury it will need an adequate supply of minerals. In addition, if a pharmaceutical chelator is used it will remove many necessary minerals, resulting in their depletion. This means it's absolutely essential to keep the body supplied with adequate amounts of minerals during the detoxification and healing period.

In addition, all minerals are water soluble and the body doesn't effectively store them. The body needs minerals throughout the day and dose-related side-effects are rare. Most experts in nutrition recommend minerals in a form where they are bound to amino acids, called an amino acid chelate. This combination is the same as that found in foods and in this form they can readily be absorbed from the intestine.

Minerals that are combined with other organic forms, such as citric acid to make a mineral citrate, are also very effective. Thus, you could see a mineral listed as an amino acid chelate, a citrate, a gluconate, or other forms ending in -ate. This combination increases their assimilation and effectiveness once they're inside the body.

All quality multi-mineral brands contain the so-called macro-minerals: calcium, magnesium, phosphorous, and potassium. Sodium and chloride are also necessary macro-minerals but are so readily available in the diet that they usually aren't included in a multi-mineral.

Trace minerals

The body also needs other minerals, both metals and non-metals, in such tiny amounts—micrograms (mcg), not milligrams (mg)—that they're commonly referred to as “trace minerals”. For example, your body requires micrograms of selenium, but milligrams of calcium. As essential as the more common macro-minerals are, many trace minerals play an equally important role in the manufacture and normal function of enzymes and other metabolic processes. They also aid digestion, are needed for the proper assimilation and utilization of vitamins and other nutrients, and are critical to the mercury detoxification process.

Iron, copper, zinc, manganese, chromium, iodine, molybdenum, and selenium are considered the most important of the trace minerals. If your present brand doesn't include them look for one that does. Some people have to pay attention to how much iron they are getting, and multiple vitamin and multi-mineral formulas can be found without iron.

There isn't a consensus on what does or doesn't qualify as a trace mineral. Some feel that cobalt, fluoride, lithium, nickel, tin, and vanadium are also trace minerals. I don't agree for the simple reason that just because they may be found in the body, it doesn't mean the body needs them. After all, mercury, arsenic, and lead are found in the body but that definitely doesn't mean your body needs them! Except for fluoride, none of the minerals named above are normally found in any of the supplements I've seen, but keep your eye out for them.

The proportions of the ingredients in a multi-mineral capsule vary widely, depending on the brand. Comparing their different formulas is easy, as most companies list minerals in the order shown below.

Recommended minerals and dosage

I recommend the following minerals. The *Amount per Serving* column shows my recommended total daily dosage for each mineral supplement. I recommend a brand that provides this amount in 4 capsules, so you can take them throughout the day.

Mineral Recommendations		
<i>Serving Size: 4 Capsules</i>		
<i>Name</i>	<i>Amount per Serving</i>	<i>% Daily Value</i>
Calcium	1000 mg	100%
Iron	10 mg	56%
Iodine	150 mcg	100%

Mineral Recommendations		
<i>Serving Size: 4 Capsules</i>		
<i>Name</i>	<i>Amount per Serving</i>	<i>% Daily Value</i>
Magnesium	500 mg	125%
Zinc	30 mg	200%
Selenium	200 mcg	286%
Copper	2 mg	100%
Manganese	10 mg	500%
Chromium	200 mcg	167%
Molybdenum	500 mcg	667%
Potassium	100 mg	3%
Boron	varies	†

The mineral amounts listed above are only guidelines. The chances are that the mineral supplements you're now taking, or will look for, will not be exactly the same as the amounts listed above. Don't be concerned if what you find is a little less or a little more than what I have listed. If your multiple vitamin also contain minerals, they'll most likely be the same minerals as those listed above but in much smaller doses. Don't worry about the additional amount of minerals you'll get from your multiple vitamin, unless there's a medical reason not to take the extra small dose.

Minerals Affected by Mercury

While all minerals have important roles to play in overall health, I feel that three are worthy of further discussion because they can be profoundly affected by mercury.

Zinc (Zn)

Zinc is an important addition to a mercury detoxification program because mercury is able to compete with and displace zinc from many biologically important substances, such as specific locations on enzymes and proteins. This can create a zinc deficiency and require additional supplementation during the detoxification process so zinc can be restored to the affected proteins and enzymes to normal function when the mercury has been removed.

Zinc is an important free radical inhibitor and is thought to have some ability to chelate heavy metals. It also stimulates the production of metallothionein—an extremely important heavy metal chelator that is found throughout the body. Mineral imbalance has been shown to be a factor in many health issues and side-effects can appear when the essential minerals are deficient or in excess.

Copper (Cu)

Copper falls into the same category as zinc and supplementation is needed in most cases for the same reasons as described above.

Selenium (Se)

Selenium is a trace mineral. It plays an important role in the manufacture of glutathione, protects heart cells, and is essential to the normal functioning of the immune system. Selenium also functions as a powerful antioxidant, working in conjunction with vitamin E. It's up to 500 times more potent as an antioxidant than vitamin E and is believed to be a unique chelator of mercury.

It has recently been suggested that selenium can bind with mercury to form an inert complex. Apparently the selenium-mercury complex cannot be removed from the body but the complex is non-toxic and will not release the mercury it binds to. That alone makes selenium an important supplement for everyone, but particularly for people whose health condition prevents them from engaging in the full supplementation program and who aren't suitable candidates for pharmaceutical chelation. I also believe it is important to take adequate amounts of selenium if you still have mercury amalgam fillings as selenium could very well bind with mercury while it transits the blood and before it attaches to anything in the body.

Getting enough selenium is critical because when it binds with mercury, selenium can easily become, in effect, depleted. This is good news because selenium can bind with mercury and render it harmless. It's bad news because a deficiency means there will not be enough available for it to perform its other vital functions.

Although there isn't a consensus, I believe that the most effective form of selenium is its organic form. This is selenium combined with an amino acid, such as methionine or cysteine, to form selenomethionine or selenocysteine. Absorption of amino acids is nearly 100% and selenium attached to an amino acid is thus readily piggybacked into the body. If you're taking organic selenium, be careful with the dosage because most of it will be absorbed. I believe that the inorganic forms of selenium, selenite or selenate, are not as readily assimilated. With the inorganic form, it's more difficult to predict how much selenium is actually absorbed. For example, you might take 400 mcg of inorganic selenium and only absorb 50% of it.

Excessive amounts of selenium have been shown to result in unwanted side-effects. The Institute of Medicine has set a tolerable intake level for selenium at 400 mcg (micrograms) per day for adults, to prevent the risk of developing selenosis. Of course, if significant amounts of selenium are being irreversibly bound with mercury, more of it can be tolerated, at least until the mercury stored in the body is significantly reduced.

Chapter 5

What You Need to Know about Nutritional Supplements

This section describes supplements that aren't considered vitamins or minerals but are essential to overall health and provide much needed nutritional support for a mercury detoxification program.

Oral Glutathione (GSH)

All proteins are made up of various combinations of amino acids, and protein must first be broken down by hydrochloric acid in the stomach into individual amino acids, before they can be assimilated into the body. Glutathione consists of three amino acids—cysteine, glutamic acid, and glycine—and it's scientifically referred to as a tri-peptide; meaning a very small protein that contains only 3 amino acids. The reduced form of glutathione is more expensive but believed to be the most active form of it.

There are about 200 to 300 amino acids in a typical protein. But there are exceptions. One of the largest proteins, in terms of the number of amino acids, contains nearly 30,000 amino acids. It is called **titin** and it is a protein found in skeletal and cardiac muscle

No one knows exactly why, but it has been shown that glutathione, when taken orally, does not raise the body's levels of glutathione. Some believe it is broken down and rendered ineffective in the intestine. However, there are studies that indicate that taking glutathione orally has value because it can be taken up by the mucosal cells that line the intestinal wall. Because the cells of the intestinal wall are the first line of defense for preventing mercury, and other harmful substances from entering the body while in the intestine, I believe taking glutathione orally will be an important factor in supporting these protective cells. The fact that it is taken up by these cells could account for the reason why it doesn't increase GSH in the body. Intestinal support will be discussed in Chapter 6, *Support for the Intestine and Brain*, page 72.

Whole grains, beans, eggs, and lean meats, potatoes, avocados, grapefruit, broccoli, cabbage, spinach, and asparagus contain small amounts of glutathione. But because so much glutathione is lost in mercury removal, and it is so poorly assimilated from the intestine, it will be important to add other substances that have been proven to increase body levels, such as N-Acetyl-Cysteine (NAC).

N-Acetyl-Cysteine (NAC)

NAC is promoted by some as an “anti-mercury” supplement because it plays such a vitally important role in supporting the body's efforts to remove mercury. By itself, NAC is considered to be a powerful antioxidant. But its greatest value to a mercury detoxification program is that it's an important precursor for manufacturing glutathione.

As it is the acetylated form of cysteine, NAC is more stable and more effective than taking L-cysteine. NAC resists being broken down in the stomach and intestine, leaving more of it to be assimilated into the body. This makes more of it available to the body to increase production of glutathione. Cysteine is the limiting factor in glutathione production because is not as abundant in foods as are the other two amino acids that make it up. Because it is not as available in the diet as the other two amino acids, it is the “limiting” factor in the production of GSH. This makes NAC is an absolute must for any mercury detoxification program.

Alpha Lipoic Acid (ALA)

Alpha lipoic acid (ALA) (also known as lipoic acid), is the most biologically active form of Lipoic Acid and is the form that the body manufactures. The R-version of ALA is thought to be twice as effective as the mixed form of R and S, (RS) Alpha Lipoic Acid, also called racemates. Alpha lipoic acid is also an excellent metal detoxifier, particularly for mercury and cadmium, which it binds to and neutralizes for excretion

Alpha lipoic acid is a specialized enzyme co-factor that the body manufactures. A powerful anti-oxidant, ALA brings unique qualities to a mercury detoxification program. It's soluble in both fat and water, enabling it to cross the fatty cell membranes and the blood brain barrier (BBB) and detoxify harmful substances stored in either fat or water. The fact that mercury has a high affinity for fatty tissue makes alpha lipoic acid one of the most—if not the most—important of the body's naturally produced chelators of mercury for removing mercury from the brain. Even though ALA may be more effective than glutathione at removing mercury from the CNS, the body doesn't produce nearly as much of it as it does glutathione.

It has been shown that the body's ability to manufacture ALA decreases with age but no one is quite sure why this happens. Based on my research I believe I have a pretty good idea as to why. Just as with glutathione, ALA has to physically remove mercury and is thus being continuously depleted during that the process. With so much mercury to be removed and so little ALA being produced it is no surprise that everyone who is mercury toxic is deficient in this vitally important substance.

Another quality of ALA is that it can help restore other important antioxidants, such as glutathione, vitamin C, vitamin E, selenium, and beta-carotene. In doing so it helps prevent the damage to, and depletion of, these essential antioxidants and chelating agents. ALA is also an important component in the energy production process in the cells and supports the immune system and liver function.

All of this makes ALA an important component of any mercury detoxification program.

Free-Form Amino Acid Complex

Amino acids are critical to health. In differing sequences, and numbers, they are the building blocks from which all protein is made. A good way to visualize how amino acids join together to become protein is to think of them as bricks of different colors, with mortar to glue them together. Each different colored brick represents an amino acid, and once the bricks have been cemented together they're collectively known as a protein. Every known protein and enzyme is nothing more than a different collection of amino acids. Proteins vary greatly in their size and function but all are necessary for health.

Most scientists recognize 20 amino acids. Eight of these amino acids are called 'essential' because they must be obtained from food sources and cannot be manufactured by the body. But **all** amino acids are **essential** for health. The human body contains more than 50,000 different kinds of proteins and at least 15,000 different enzymes, all utilizing amino acids. Some of the body's most important proteins and enzymes, especially in regard to mercury, are those that include amino acids with sulfhydryl (sulfur) groups.

Mercury specifically targets proteins and enzymes that include the sulfur containing amino acids—cysteine, methionine, and taurine. Because such proteins and enzymes are essential components of many vitally important functions of the body, I believe that you should supplement with a free-form amino acid complex; especially in the early stages of detoxification.

Be sure to use **free-form** amino acids because they're not bound together as a protein and thus don't have to be broken down in the stomach in order to be absorbed from the intestine. No protein larger than a tripeptide can pass through the intestine. The fact that single amino acids are 100% absorbed from the intestine significantly increases its availability.

I personally believe that the amino acids with sulfur can bind mercury in the intestine and reduce its toxicity by removing it via the feces. This is an added benefit of taking free form amino acids. Vegetarians may be deficient in higher quality protein, those containing the essential amino acids, and thus could become deficient in them over time.

Another advantage of supplementing with free-form amino acids is that most people dilute the stomach's hydrochloric acid (HCL) by drinking too much water just before or during meals that contain significant amounts of protein, such as meat, poultry, and fish. Diluting HCL diminishes its ability to break down protein into amino acids. Taking a free-form amino acid supplement also helps those who are deficient in HCL.

Supplementing with free-form amino acids can also be helpful to others, especially vegetarians, and those who have the most severe mercury-related symptoms.

For all of these reasons, I believe that supplementing with free form amino acids is a good addition to any mercury detoxification program.

What's on the label

If you're going to take an amino acid supplement the label should specifically say the contents are '*Free-Form Amino Acids*'. The following sample label lists an adequate amount of amino acids. Different brands contain varying dosages, but 825 mg is sufficient. If you find a brand that has a little less, or more, that will be fine too.

Amino Acid Recommendations		
Supplement Facts - Serving Size: 1 Capsule		
<i>Name</i>	<i>Total Amount</i>	<i>% Daily Value</i>
Alanine	825 mg	†
Arginine	825 mg	†
Asparagines	825 mg	†
Aspartic acid	825 mg	†
Cysteine	825 mg	†
Glutamine	825 mg	†
Glutamic acid	825 mg	†
Glycine	825 mg	†
Hystidine	825 mg	†
Isoleucine	825 mg	†
Leucine	825 mg	†
Lysine	825 mg	†
Methionine	825 mg	†
Phenylalanine	825 mg	†
Proline	825 mg	†
Serine	825 mg	†

Amino Acid Recommendations		
Supplement Facts - Serving Size: 1 Capsule		
<i>Name</i>	<i>Total Amount</i>	<i>% Daily Value</i>
Threonine	825 mg	†
Tryptophan	825 mg	†
Tyrosine	825 mg	†
Valine	825 mg	†

Methylsulfonylmethane (MSM)

MSM is an excellent source of dietary sulfur, which is an essential part of many key enzymes, amino acids, and proteins. Sulfur is also needed to sustain a healthy immune system and for optimal liver detoxification and, as such, is important to the mercury detoxification process.

MSM can generate a sulfur-like odor in some people, but this is uncommon, and has been shown it to be non-toxic in reasonably high amounts. However, a small percentage of people have an allergic reaction to certain sulfur compounds. If you know that you're one of these people, or think that you may be, please consult your physician before taking MSM.

Coenzyme Q 10

Coenzyme Q 10 is an effective antioxidant and chelator that's similar to vitamin E in its actions. It's extremely important in maintaining the effectiveness of the immune system.

Milk Thistle (Silymarin)

The primary benefit of milk thistle is that it supports healthy liver function. The protective benefits of silymarin, the key flavonoid in milk thistle fruit, have been documented over many years. Its antioxidant action helps protect cell membranes and stimulates glutathione production in the liver. Milk thistle protects the liver by acting as an antioxidant and by promoting the growth of new liver cells. It also helps with the digestion of fats, helps keep harmful substances out of liver cells, protects the liver from free radical damage, and increases the levels of other fundamental antioxidants. A healthy liver is critically important, not only for overall health, but because it is the major detoxification organ of the body.

Digestive Enzymes

Most detoxification programs recommend digestive enzymes to help the body digest protein, carbohydrates, and fats. The protease enzyme will help break protein down into amino acids and aid in their assimilation. This is reason enough to recommend including them in the program. I also believe that an enzyme complex aids in overall digestion and improves assimilation of important nutrients. Always remember that my detoxification philosophy isn't just about removing mercury but also to support overall health. A healthy body is much more effective at removing mercury and detoxifying other harmful substances.

A digestive enzyme complex should include the basic enzymes for fat (lipase/LU), carbohydrates (amylase/DU), and proteins (protease/HUT). There are other digestive enzymes but these are the ones most commonly recommended. If a manufacturer lists the dosage in these units, you can be assured the enzymes are very active. If a brand only lists the total enzyme amount in milligrams, I don't believe this information is sufficient to assess potency.

A Sample Enzyme Label

The following table gives a sample label of an enzyme complex with satisfactory minimal dosages for the three basic enzymes, lipase, amylase, and protease. I suggest basing your choice of an enzyme complex on the amounts of these three enzymes. If you find one that contains a little less or a little more, that is fine too. You may find some brands that include more types of enzymes, such as cellulase and lactase. While these may also have some additional value for some people, I don't consider them to be an essential part of an enzyme complex for my program.

Enzyme Recommendations		
Serving Size 1 Capsule		
<i>Name</i>	<i>Total Amount (in units)</i>	<i>% Daily Value</i>
Protease	6500 HUT	†
Amylase	2000 DU	†
Lipase	28 LU	†
Cellulase	20 CU	†
Lactase	100 LACU	†

Natural Foods, Herbal, and Other Supplements

Many natural foods and herbal supplements—fresh, dried, in tinctures, and in capsules—can play a valuable role in supporting overall health. Some can also play a more active role in mercury detoxification. Others are good sources of important nutrients, especially foods containing sulfur, that are needed for the overall health of the body.

Some of the more important natural foods and herbal supplements will be described briefly. Whenever possible, I recommend buying organic foods and products.

Whey

All whey is derived from milk protein. It's basically fat-free, very low in carbohydrates, and an excellent source of at least 18 amino acids, including all 8 essential amino acids. The best quality whey is a dry concentrate produced by micro-filtration and low-temperature pasteurization of milk.

Whey protein is high in **cystine** (not cysteine), considered by some to be an amino acid. Cystine consists of two cysteine molecules attached by a disulfide bond. The disulfide bond resists breakdown by the digestive enzymes, pepsin, trypsin, and chymotrypsin in the stomach. This protects cystine from being broken down into two cysteine amino acids in the digestive process. As discussed earlier, L-cysteine can be spontaneously broken down in the gastrointestinal tract and blood plasma, making it unavailable. Intact, cystine readily passes through the intestine wall and into the blood plasma.

Once in the body it is promptly broken down into two cysteine molecules upon entry into cells. Once there it stimulates production of glutathione. This makes whey an important addition to a mercury detoxification program.

Whey is also exceptionally high in branched-chain amino acids. These branched amino acids occupy transport sites at the blood brain barrier and function to prevent metals from being

transported into the brain. Most brands of whey contain only small amounts of lactose but lactose-intolerant individuals should use caution and consult with their health care professional before adding it to the program.

Patients undergoing immunosuppressive therapy should discuss the use of whey protein with their health professional. Reported side-effects include gastrointestinal bloating and cramping. Also, whey contains casein and some people have problems with it.

There are a number of brands of whey protein. The best quality whey is hydrolyzed and not heated (un-denatured) during production. Because whey protein is vulnerable to heat and grinding stress, heating it, adding it to hot liquids, or using a high-speed blender to mix it, can decrease its effectiveness. I add it to my favorite juices in a jar and shake well. Your local health food store will be helpful in selecting whey, as most of them carry a number of quality brands.

Chlorella

Chlorella is an algae and is exceptionally high in vitamins, minerals, and amino acids. It's believed to be able to bind with mercury and other heavy metals in the intestine and help remove them via the feces. Unless methyl mercury is bound up while passing through the intestine it can be readily reabsorbed into the body. This makes chlorella's ability to support the intestine an important part of any mercury detoxification program. There's also some evidence that some components of chlorella can be absorbed from the intestine, remove mercury and cross the blood brain barrier and remove mercury from the brain. While many authorities believe this is possible no one has yet discovered its exact method of action.

It has been estimated that up to 30% of the population may not be able to tolerate chlorella. It can cause burping, diarrhea, and gas. If any adverse symptoms develop the first thing to do is lower the dosage. You can also try taking it with the enzyme cellulase, which will help break down the chlorella's cell wall. If the symptoms still persist, stop taking chlorella altogether.

If you haven't taken chlorella before, I strongly recommend that you first test for your tolerance to it. You'll find instructions in **Chapter 7**.

Many brands of chlorella are readily found in health food stores or through your favorite supplement company. It's available in tablet or powder form. If you have any questions, talk with the person working in the vitamin section of your health food store or your health practitioner. He or she will help you decide which one would work best for you.

BioRay, Inc., produces a brand of chlorella, called NDF, that is nanonized (broken down into extremely small particles), so it can more readily be assimilated into the body. It is also believed that its small size makes it more tolerated, with fewer side-effects. The smaller sized particles could also increase its effectiveness and prevent mercury from being reabsorbed.

The last time I checked it wasn't available from health food stores. For more information go to www.bioray2000.com.

Cilantro

Cilantro, also referred to as Chinese parsley or coriander, is a member of the carrot family. It

is believed to be able to cross the blood brain barrier and mobilize mercury in the brain. Cilantro may also have the same effect on mercury stored in muscles, connective tissue, bones, ligaments, and cellular membranes. But there is evidence that it may not bind with mercury strongly enough to be able to remove it from the body.

Yet in mobilizing mercury it can perform a very important function. Once the mercury is dislodged from whatever it was attached to in the body, substances such as alpha lipoic acid, glutathione, selenium, chlorella, DMSA (a pharmaceutical chelator), and other more effective mercury chelators, can capture and remove it from the body. The ingredients in cilantro that mobilize mercury and their mode of action aren't fully understood. Until they are I don't believe you should take large amounts of cilantro, especially in tincture form, unless you are also taking adequate amounts of the other more effective chelators at the same time.

Cilantro is useful in its natural form as an herb, but is thought to be most effective as a tincture (liquid drops). Some people are sensitive to cilantro and, as with any of the recommended nutritional supplements, if you develop any adverse reactions—stop taking it.

Health food stores and internet supplement companies are the best source of cilantro. Quality is important, so ask the staff in the supplement section for recommendations. If the tincture isn't available, you can eat it raw or juice it with other vegetables. Of course as a plant it contains other beneficial ingredients.

Garlic

Garlic contains 33 sulfur compounds, 17 amino acids, and many vitamins and minerals; making it an important addition to my mercury removal program. Because it's high in sulfur and sulfur-containing amino acids, I believe garlic will also be effective at binding mercury in the intestine. In addition, it can supply sulfur to the body's other sulfur-containing amino acids.

Although not commonly known, the health effects of fresh garlic cloves, particularly the release of allicin, are most potent when they are cooked or crushed. It is very tasty when baked and easy to eat. It is also available in capsule forms from your favorite health food store. To determine a garlic product's value, check how much **allicin** it yields. Allicin is the most potent compound derived from garlic.

The sample label below lists the amount of garlic per capsule and its allicin yield. I believe brands that offer the highest yield of allicin are the most effective.

Garlic Recommendations		
Serving Size 1 Capsule		
<i>Name</i>	<i>Amount per Serving</i>	<i>% Daily Value</i>
Garlic (ALLIUM SATIVUM) (bulb or clove) Releasing 3000 mcg allicin	350 mg	†

Dietary Fiber

Sufficient fiber (bulk) is critical to intestinal health. Because a healthy digestive system is essential to detoxification, fiber is essential to the success of any mercury detoxification program. There are many kinds of dietary fiber but I recommend a soluble fiber from **plantago seed husks**, commonly referred to as **psyllium**. It can be mixed with water or juice and I

recommend taking it before or between meals, but not at the same time supplements or medications are taken. This is because it is possible that the fiber could capture some of the supplements and remove them from the body, preventing their assimilation.

When psyllium husk fiber comes in contact with a liquid, it swells, absorbing both water and waste as it passes through the intestine. This forms a soft but firm mass that promotes the transport of waste through the entire intestinal tract. I believe that it not only removes intestinal toxins but can also remove mercury in the process by trapping it in the mass that it forms. The bulk formed by the fiber also serves as a 'broom', sweeping the intestine and keeping it healthy. Psyllium is not absorbed and all of it will pass out of the body with feces.

Although it can be taken at other times, the most effective time to take it is two hours or so before bedtime. Mercury is being removed from the body and released into the intestine 24 hours a day and it doesn't take a break while you are sleeping. By taking it at this time you will be able to help protect the intestine during the time you are asleep. We might not work 24/7 but the body's defense mechanism does!

Probiotics (Intestinal Microflora)

A probiotic, such as acidophilus, is an organism that contributes to the health and balance of the intestinal tract. Probiotics are also referred to as "friendly", "beneficial", or "healthy" bacteria and can help restore the balance of intestinal flora by keeping the "bad" bacteria in check. By restoring the "friendly" intestinal flora, probiotics can actually reduce many gastrointestinal symptoms, including those that might be related to mercury toxicity.

Probiotics are even more effective if they contain other forms of lactobacillus. Some higher quality brands of probiotics contain up to 16 different kinds of these helpful organisms. You'll be able to recognize the various kinds by the first word. For example, there are at least 10 types of lactobacillus, such as *Lactobacillus bulgaricus*, and numerous types of bifidobacterium, such as *Bifidobacterium bifidum*. I recommend products that contain the most commonly found strains of probiotics, such as Lactobacilli and Bifidobacteria. If you're uncertain about which brand to use, I suggest asking for advice at the vitamin section of your health food store.

Activated Charcoal

It has been suggested that activated charcoal can effectively bind with mercury in the intestine. Because I stress intestinal support, I believe that activated charcoal can be very beneficial. When used correctly charcoal certainly does no harm and there's also anecdotal evidence showing that patients feel better during mercury filling removal and detoxification when they take three activated charcoal capsules twice a day.

Charcoal shouldn't be taken at the same time as vitamins, nutritional supplements, or medications, as it could absorb these substances and remove them as it would a toxin. It should be taken on an empty stomach which allows it to support the intestine during the period when other supplements are not available.

If you haven't had your amalgam fillings removed and are planning to do so, I recommend taking it 10 to 20 minutes prior to amalgam removal.

Homeopathic Therapy

Some health professionals suggest that homeopathic remedies can support a mercury detoxification program. I support homeopathy and believe it can be a valuable adjunct. But if you know or suspect that you're allergic to mercury, I don't believe you should include a

homeopathic mercury remedy in your detoxification program. A homeopathic mercury remedy, such as mercurius or mercurialis, may trigger a secondary immune response in those who are allergic to mercury.

I'm not an expert in homeopathy and I encourage you to discuss it with a trained homeopathic practitioner. Properly practiced, homeopathy treats each person individually. A treatment that works for one person may not work for another, even though their symptoms are the same. While I believe that adjunct homeopathic therapy can support the detoxification process, I personally don't believe it will ever be effective as a stand-alone treatment for chronic mercury poisoning.

Recommended Supplements, Daily Value, and Therapeutic Doses

To make it easy for you to quickly check the supplements and dosages I recommend in my program I've included a chart that lists them in alphabetical order. The chart gives the dosage range and includes helpful special instructions. In addition, the chart compares my recommended dosages to the FDA's Daily Value and to the range of much larger therapeutic dosages used by health professionals to treat acute health conditions. It also lets you compare the supplements you're now taking with what I recommend. If you are new to the world of supplements you might copy these pages and take them with you to the health food store.

Comparing Supplements and Special Instructions		
<i>Supplement</i>	<i>Daily Dosage</i>	<i>Special Instructions</i>
Alpha-Lipoic Acid	Daily Value: † Therapeutic Dose: 500 to 1000 mg <i>My program:</i> 200-300 mg	With meals Test your tolerance for ALA before using it. See Chapter 7 page 84
Amino acid complex	Daily Value: † Therapeutic Dose: Varies greatly <i>My program:</i> 825 mg per amino acid	Take between meals
Beta Carotene	Daily Value: 5000 IU Therapeutic dose: 25,000-100,000 IU <i>My program:</i> 25,000 IU	With meals Found in multi-vitamin
Bioflavonoids	Daily Value: † Therapeutic Dose: 1,000 to 5,000 mg <i>My program:</i> 500 mg	With meals If your multi-vitamin doesn't contain bioflavonoids, or your Vitamin C capsule doesn't include them in sufficient quantities, you should supplement them
Chlorella	Daily Value: † Therapeutic Dose: Varies greatly <i>My program:</i> 3-30 tablets	Spread throughout the day, with or without meals, but if tolerated take between meals Test your tolerance for chlorella before using it. See Chapter 7, page 85
Cilantro	Daily Value: †	Two ways to take cilantro

Comparing Supplements and Special Instructions		
<i>Supplement</i>	<i>Daily Dosage</i>	<i>Special Instructions</i>
	Therapeutic Dose: Varies widely My program: Varies	See page 60 Do not take until 5 th week of post-removal program and only if DMSA is taken Do not take on days when DMSA is not taken
Coenzyme Q-10	Daily Value: ± ± Therapeutic Dose: 100 to 2000 mg My program: 60 mg	With meals
Digestive enzymes	Daily Value: † Therapeutic Dose: Varies widely My program: Take as directed on label.	With meals A number of different formulas are available. I suggest asking the person in charge of supplements in your health food store to help you find a formula that fits your needs.
DMSA	Daily Value: † Therapeutic Dose: 200 to 1500 mg My program: 100-300 mg	Take between meals Not for everyone Prescription required Read information about DMSA in Chapter 9, page 105 Must be tolerance tested
Garlic	Daily Value: † Therapeutic Dose: 250 to 2000 mg My program: 350 mg, releasing 3000 mcg allicin	With or without meals
Glutathione	Daily Value: † Therapeutic Dose: 500 to 2000 mg My program: 200 to 300 mg	Between meals
Milk Thistle (Silymarin)	Daily Value: † Therapeutic Dose: 600 to 1500 mg My program: 200 to 300 mg	With meals Tolerance test, see Chapter 7, page 82
MSM	Daily Value: † Therapeutic Dose: 3,000 to 6000 mg My program: 500 to 1000 mg	With meals Tolerance test, see Chapter 7, page 82 After the program is finished, you can stop taking MSM if you wish.
Multi-Mineral	Daily Value: See Chapter 4, page 52	With meals

Comparing Supplements and Special Instructions		
<i>Supplement</i>	<i>Daily Dosage</i>	<i>Special Instructions</i>
	Therapeutic Dose: Varies widely My Program: 4-6 tablets/day	See section on multi-minerals, Chapter 4, page 52
Multi-Vitamin	Daily Value: See label page 48 Therapeutic Dose: Varies widely My Program: 2 capsules/day	With meals See section on multi-vitamins, Chapter 4, page 48
Omega-3 fatty acid	Daily Value: † Therapeutic Dose: 3,000 to 6000 mg My program: 1000 mg	With meals
NAC	Daily Value: † Therapeutic Dose: 2,000 to 4000 mg My program: 1000 mg to 1,500 mg	With meals Test your tolerance for NAC if you haven't used it. See Chapter 7, page 83
Probiotics	Daily Value: † Therapeutic Dose: Varies widely My program: Follow directions on label	Take on empty stomach, preferably before breakfast.
Psyllium	Daily Value: † Therapeutic Dose: Not established My program: Follow directions on label	Preferably take on empty stomach, with water or juice water. Can be taken 1 to 2 times a day, morning and evening, 2 hrs. prior to retiring.
Selenium	Daily Value: 70 mcg Therapeutic Dose: 400 to 800 mcg My program: 400 mcg	With meals Found in multi-vitamin/mineral and also to be supplemented.
Vitamin C Supplement	Daily Value: 60 mg Therapeutic Dose: 2 to 25 grams My program: 3500 mg (3.5 grams)	Preferably with meals If taken between meals, wash down with at least one 8-ounce glass of water, juice, or water mixed with juice.
Vitamin E	Daily Value: 30 IU Therapeutic Dose: 800 to 2000 IU My program: 400 IU	With meals Found in multi-vitamin
Whey protein	Daily Value: † Therapeutic Dose: Not established My program: Follow directions on label	Whey is best taken on an empty stomach. It can also be taken with meals, although this may reduce its assimilation.

Comparing Supplements and Special Instructions		
<i>Supplement</i>	<i>Daily Dosage</i>	<i>Special Instructions</i>
		See Chapter 5, page 59
Zinc	Daily Value: 15 mg Therapeutic Dose: 60 to 120 mg My program: 60 mg	Found in multi-vitamin/mineral
Optional Supplements		
Evening Primrose	Daily Value: † Therapeutic Dose: 1,500 to 3,000 mg My program: 1000 mg	With meals
Grape seed extract	Daily Value: † Therapeutic Dose: 1,500 to 3,000 mg My program: 50 mg	With meals May not be found in most multi-vitamins and will probably need to be supplemented.
Activated charcoal	Daily Value: † Therapeutic Dose: Not established My program: 250-500 mg 2x/day day	Take between meals before eating in the morning and two hours after eating in the evening. Do not take with medicine or supplements. Can also be taken an hour before filling removal.

†: An FDA Daily Value has not yet been established.

If you're working with a health professional you trust, I believe you should follow his/her guidelines regarding supplements and dosages. For example, if my program says to take one 50 mg tablet of alpha lipoic acid, 2x/day, and your health professional recommends one 100 mg tablet 3x/day, follow his advice. However, if your health professional wants to reduce the dosage of any supplement I recommend, I believe you should ask him, or her, to explain the rationale to your satisfaction.

Regardless of whose suggestions you follow, if you experience adverse side-effects with any increased dosage you should reduce the dose until they disappear. You are ultimately your own doctor.

Addressing Dietary Needs

Before addressing specific dietary needs, I should make it clear that a mercury detoxification program isn't the same as a cleansing diet or an exercise or weight loss program. While there may be significant overlap, there are also distinct differences. When considering your dietary requirements that focus on all aspects of mercury removal, my program will be different than any of the other programs. If you do attempt to combine them just make sure that everything that I recommend is included.

Fasting

For example, I advise against fasting in the early stages of a mercury detoxification program. At this time your body requires adequate amounts of complete and easily-digestible protein.

Fasting also means that essential foods and supplements that could capture mercury in the intestine won't be available to it. This is an important consideration because the body is continually releasing mercury into the intestine and it can be reabsorbed if not strongly bound to a chelator.

Vegetarians

I believe that vegetarians are particularly susceptible to the effects of chronic mercury poisoning because many aren't receiving adequate sources of complete protein (amino acids). If you're a vegetarian be sure to supplement your diet with adequate protein during the program, such as whey or free-form amino acids. Unless you do, your mercury detoxification program may not yield the results you're seeking.

The goal of an effective detoxification diet is to also support the program from a dietary standpoint, supported by supplements.

Other Supplements, Nutrients, and Foods

The following section will discuss important nutrients and foods relating to mercury detoxification.

Essential Fatty Acids

Adequate fat intake is necessary to maximize the body's ability to eliminate mercury. Because the body doesn't manufacture essential fatty acids (EFA's), the diet must provide them. The problem is that most diets are deficient in EFA's. Most people have a ratio of about 15 to 1 omega-6 to omega-3 in their diets; or too much omega-6 and not enough omega-3. Most authorities agree that a ratio of 2 or 4 omega-6 to 1 omega-3 is far healthier. This ratio is believed to lessen the risk of dying from heart disease, decrease the risk of breast cancer, and reduce inflammation in those with rheumatoid arthritis.

The body can access EFA's more easily from fish than from any other food. Since most vegetarians don't eat either fish or meat, obtaining EFA's can be challenging for them. Therefore I suggest not only supplementing with EFA's but also supporting it with grains, plant-based oils, and eggs, all of which contain essential fatty acids.

The table below summarizes dietary sources of good quality essential fatty acids.

Essential Fatty Acids (EFA's)	
<i>Omega-3's</i>	<i>Omega-6's</i>
Flaxseeds, freshly-ground wheat germ, purslane (a vegetable), and to a lesser degree, pumpkin seeds.	Botanicals, such as evening primrose oil and borage oil, contain the highest amounts of Omega-6 oils Safflower, sunflower, and corn oil also contain Omega-6's.
Seeds, nuts, avocados	Seeds, nuts, avocados
Fatty fish — salmon, bluefish, sardines, herring — are the best source of one variety of omega-3.	Grains, poultry, eggs, and most plant-based oils (corn, safflower, sunflower)
Dried beans: great northern, kidney, navy, soy	Dried beans: great northern, kidney, navy, soy

Because of the difficulty most people have in obtaining adequate amounts of Omega-3 and -6 fatty acids from their diets, I've added it to the program as a supplement.

Sulfur

Foods that are high in sulfur are essential to any mercury detoxification diet. A number of vegetables provide sulfur to the body and also act as intestinal cleansers and binders of mercury. The table below lists some of the more common sulfur containing foods. I recommend including them in your diet but only if you don't have allergies or other dietary or medical reasons not to include them.

Foods High in Sulfur			
Avocado	Cabbage	Oat flakes	Sprouts
Beans	Cauliflower	Onions	Turnips
Broccoli	Eggs	Peas	Wheat Germ
Brown rice	Garlic	Pumpkin seeds	Yogurt
Brussels sprouts	Horseradish	Red peppers	
Butter	Legumes	Sesame seeds	

Dietary Protein

Protein from the diet is the most common source of essential amino acids, particularly those containing sulfhydryl groups, such as cysteine, methionine, and taurine. Ample protein intake is important for any mercury detoxification diet. The foods with the most complete amount of amino acids are eggs, chicken, turkey, dairy products, fish, rice and beans in combination, wheat germ, soybeans, nuts, chlorella, and bee pollen. If you can tolerate it, I also recommend whey protein as an excellent source of essential amino acids.

Three essential amino acids—lysine, methionine, and tryptophan—are somewhat lacking in many plant proteins. For example, corn protein is very deficient in lysine and tryptophan, and beans are low in methionine, an important sulfur-containing amino acid. Anyone who follows a strict vegetarian or vegan diet should make sure they adequately supplement these three amino acids. The free-form amino acid complex I've previously mentioned will help ensure these needs are met.

Other Optional Dietary Products

Green tea, ginkgo bilboa extract, Hawthorne berry extract, artichoke powder, and desiccated liver can have a positive effect on mercury detoxification and overall health. Please feel free to add these items to your program. I'm aware that there are many other natural foods, nutrients, and herbs beneficial to overall health. Of course, just because they aren't listed here doesn't mean you shouldn't include them in your program. This is entirely up to you and if you don't have a problem with adding any of these, or others not included here, to the program then I encourage you to do so.

For many people, mercury poisoning is not the only health issue they are dealing with and I encourage the use of any healthy food or nutritional supplement you are comfortable with. In the next chapter, I describe the supplements that are essential for supporting the intestine and brain.

Optional Detoxification Products

There are of course other supplements and products that you may have heard or read about that can have value in a detoxification program but may not be necessary for every participant.

I encourage you to evaluate them thoroughly before adding anything to your program. That is a decision for you or your health professional to make. If you are now taking more supplements than I recommend, or want to add more at any time, I encourage you to do so, as long as you monitor yourself for any side-effects. But remember, compliance is critical and if you do decide to add anything else to my program I suggest you don't do it at the expense of what I recommend.

My Recommendations

Whether you are participating in my mercury detoxification program, or any other, you will want do everything you can to support your body's effort to naturally remove mercury, and other heavy metals. One of the products I've researched and feel would be a positive addition to the program for those still being exposed to mercury is **Natural Cellular Defense (NCD)**.

What is NCD

NCD, developed by Waiora, is a patented formula that utilizes the natural cleansing properties of zeolite. Zeolites are natural volcanic minerals with a unique, complex crystalline structure. The minerals complex's honeycomb framework of cavities and channels (like cages) works at the cellular level to trap heavy metals and toxins. In fact, because it is one of the few negatively charged minerals in nature, zeolite acts as a magnet drawing many positively charged toxins to it, capturing them in its cage and safely removing them from the body.

Waiora makes a number of health claims for NCD that I can't independently vouch for but there is evidence that it can capture and remove mercury while still in its ionic form. This means it could play a valuable role in capturing mercury, before it is oxidized and attaches to enzymes or proteins. I also believe it can provide intestinal support by capturing mercury, other heavy metals and toxins, as they pass through the intestine.

As well as its ability to remove metals and toxins, zeolite is believed to have the following functions:

- Acts as a powerful antioxidant
- Helps balance the body's pH
- Reduces incidences of diarrhea
- Improves absorption of nutrients from the intestine
- Supports immune system function

While it has long been known that zeolite has many beneficial health supporting qualities, I believe its ability to capture and remove harmful metals makes it a positive addition to my mercury detoxification program. If you decide to utilize it to combat mercury it should, always be used with my detoxification program and never as a stand-alone detox program.

Who Can Benefit from NCD

I believe that anyone who is being exposed to mercury, or other heavy metals, on an ongoing basis will benefit from taking NCD. While more studies are being, I feel that the existing evidence indicates that zeolite is effective at protecting people who have not yet removed the source of mercury, such as dentists and those with amalgam fillings. Thus, I feel it will be

especially useful for:

- **Those who have not yet had their mercury amalgam fillings removed.** For this group, mercury vapor is continuously entering the body and the intestine. Although zeolite can't epull mercury off where it is attached to in the body, it can intercept it before it does so. It ncan also support intestinal health by helping to bind mercury being released into it.
- **Anyone who still has gold, or porcelain, crowns on their back teeth.** It has been estimated that 80 % or more of these crowns will have some amalgam material left under them. Unless you know for sure that there is no amalgam filling under the crown you could still be exposed to mercury. Removing and replacing crowns is expensive and not everyone is willing, or can afford, to have it done. I believe that NCD can help protect the body from a continuous exposure to mercury.
- **Any dentist, including those who are mercury free.** Even if a dentist has had his, or her, mercury amalgam fillings removed, they are still being exposed to mercury vapor, from removing their patient's amalgams, on a daily basis. This is true for those using maximum safety precautions. Every dentist has been exposed to excessive amounts of mercury since they started dental school. This long-term exposure to mercury makes them much more susceptible to even small amounts of mercury from their dental practices, and I believe that NCD would offer added protection for them.

To learn more about NCD and how to order it you can go to my website, www.dentalwellness4u.com/products/oralhealthcaresupplements.html

What's Next

If you do decide to add NCD to the program, I encourage you to follow my recommendations for tolerance testing. Because the body doesn't see NCD as a toxic substance, most people will not have any allergic side-effects from it. But tolerance testing will help ensure that you don't have any dose related side-effects. (This information is also found on my website, www.dentalwellness4u.com/freeservices/find_health_pros.html.)

Tolerance Testing NCD

I believe that when adding any new supplement to your program you should tolerance test to make sure your body will not have an adverse reaction to it. Every body is different in how it handles things and no body reacts to a substance in exactly the same way.

The manufacturer's recommendation for using NCD is to take 10 drops, 3 times per day, for 10 days . . . and then 3 drops, 3 times per day thereafter. I recommend that you start by tolerance testing NCD in smaller doses (see below). In addition, it is very important, to any detoxification program, for you to consume adequate amounts of water. I recommend a minimum of 8, eight ounce glasses of water, spread throughout the day.

1st Stage

My suggestion is to start with 1 drop in an 8 oz glass of water, 3 times a day for 3 days. If you don't experience any unwanted side-effects you can continue with the next and succeeding stages.

2nd Stage

Increase to 2 drops per 8 oz glass of water, 3 times per day for 3 days.

3rd Stage

Increase to 3 drops per 8 oz glass of water, 3 times per day for 3 days.

4th Stage

Increase to 5 drops per 8 oz glass of water, 3 times per day for 3 days.

5th Stage

Increase to 10 drops per 8 oz glass of water, 3 times per day for 7 days.

After completing Stage 5 you can stay at this level or go back to any of the previous stages. Whichever one you choose will become your maintenance level and you can stay at that level for as long as you want to. The 1st stage dose supports the primary detoxification phase but because we are constantly being exposed to unwanted toxins the maintenance level will help protect against them.

Ultimately the maintenance level you select will depend on the results you get. Some people are more toxic than others and a higher maintenance level would be beneficial. Others are not and returning to the 1st Stage level, or any of the others, will be sufficient. Listen to your body and decide.

If You Still Have Amalgam Fillings

If you still have your amalgam fillings there are a number of supplements you can take prior to having them removed. Doing so will provide additional protection, over and above what the mercury free dentist will do, against excessive mercury exposure. If, for whatever reason, you are unable to go to a dentist who is mercury free following this protocol will be even more important.

The purpose of taking these supplements is to get these mercury fighting supplements into the blood stream prior to your exposure to it when the fillings are drilled out. The blood stream is the body's first line of defense for binding mercury before it can enter the cells and tissues of the body and brain.

An hour prior to your dental appointment I recommend that you take, on an empty stomach if possible, the following supplements with **whey** mixed with juice or water:

What to Take Prior to Amalgam Removal
1000 mg of vitamin C 500-900 mg of NAC 100 mg of Alpha Lipoic 1 capsule of garlic 1 dose of chlorella NCD (as directed)

If you are on the program you will already be taking these supplements but the reason I recommend them within an hour prior to having your amalgam fillings removed is so you can maximize their concentrations in your body. Not everyone will have a dental appointment right after they take their supplements so adding these ensures you will be more than adequately covered during filling removal.

Chapter 6

Support for the Intestine and Brain

A number of the supplements I use in my mercury detoxification program play a multiple role. They not only help remove mercury from the body and sustain overall health but also support the intestine and nourish the brain. As important as it is to remove mercury from your body, a detoxification program won't be completely successful unless your intestine is supported and the damage done to your general body and brain is reversed—to the extent that is possible.

Intestinal Support

I believe that one of the reasons a mercury detoxification program fails to achieve the desired results is because it doesn't adequately support intestinal health. To ensure that this doesn't happen three critical issues must be addressed:

1. Preventing the re-absorption of mercury from the intestine after it has been ingested or passed into it from the liver;
2. Dealing with leaky gut syndrome; and
3. The increased resistance of oral and intestinal flora to antibacterial and antifungal therapy.

Oral and intestinal flora are collective terms for the various bacteria and other microorganisms that reside in the mouth and intestine. Many are beneficial but some are not, and even beneficial flora can create problems if not kept in check.

When looking at intestinal health, it's important to consider the entire digestive tract. It will help your understanding if you visualize the digestive tract as a very long tube that starts at the mouth and continues through the throat area, stomach, small and large intestine, and ends at the anus. In effect, whatever is found within this tube is actually considered to be outside of the body.

The wall of this tube is lined with cells which allow certain substances that are swallowed and digested to pass into them and then into the bloodstream. Intestinal cells also secrete enzymes and hormones and, when healthy, can prevent harmful substances from entering the body from the intestine.

Let's take a closer look at mercury re-absorption, leaky gut syndrome, and increased resistance of oral and intestinal flora.

Mercury Re-Absorption

Ninety-percent of the mercury that is removed from your body passes out of the liver via the common bile duct. The common bile ducts enters into the upper part of the small intestine (duodenum), very close to where the stomach and intestine meet. The excreted mercury must then pass through the entire intestine, about 26 feet, before it is actually eliminated with the feces. Those 26 feet provide mercury ample opportunity to re-enter the body through the cells of the intestinal wall. The key here is that while many supplements and chelating agents can effectively transport mercury out of the body and into the intestine, there's no guarantee that all the mercury dumped into it will actually be removed.

Thus, releasing mercury into the intestine isn't the end of the detoxification process because

mercury must also be effectively passed *out* of it. Making certain that it actually passes completely out of the body is the only sure way to minimize the amount of mercury available for re-absorption. Based on my research, I believe that the delay in symptom improvement, along with a number of the side-effects resulting from mercury detoxification programs that don't adequately deal with intestinal issues, can be attributed to mercury being re-absorbed.

Some mercury re-absorption could be the result of inappropriate or insufficient supplementation, where strong mercury chelators weren't provided. But I believe the greatest amount of re-absorption occurs because of inadequate intestinal support.

How Mercury Becomes Organic

We know that intestinal and oral bacteria can convert mercury into methyl/organic mercury, which can then be readily re-absorbed into body. Therefore, I feel that it's necessary to make sure that the cells that line the intestine are supported. Doing so will provide protection against mercury that may be available to be re-absorbed into these cells. The bottom line is that it doesn't matter whether mercury gets to the intestine from what you eat, or from the liver via the common bile duct; if it isn't safely passed out of the intestine, it will interfere with the success of any detoxification program.

There are a number of substances that help bind the mercury entering the intestine, prevent it from being re-absorbed, and assist in its excretion. My program includes a two-fold system to deal with this issue. First, it provides for oral intestinal support, such as glutathione, ALA, chlorella, whey, garlic, and psyllium; which all help to ensure that mercury that's released into the intestine will pass out of it. Second, I recommend external intervention. This form of intestinal support involves the effective use of colonics and enemas to help the body remove mercury and other toxins.

Leaky Gut Syndrome (LGS)

Much has been written about leaky gut syndrome and its effect on overall health. LGS results when the intestinal wall becomes so porous that mercury, toxins, antigens (things that cause allergies), and other harmful substances can readily pass into the cells and the spaces between the cells lining the intestine. Regardless of how they get in, they now have access to the entire body via the circulatory system. A leaky gut can dramatically increase the amount of mercury that is re-absorbed, stimulate numerous autoimmune reactions, and place additional stress on the immune system. Dealing with leaky gut syndrome is very important when detoxifying from mercury or treating any illness.

If you have a history of food allergies, chemical sensitivities, abdominal pain, excess gas, bloating, indigestion or diarrhea, I suggest consulting with your health professional to discover if leaky gut syndrome is involved. I agree with those who believe that mercury can play a major role in leaky gut syndrome and that you cannot permanently resolve this problem until excessive amounts of mercury are no longer being deposited into the intestine.

If mercury is one of the major culprits in leaky gut syndrome, this condition should improve once the amount of mercury entering the intestine has been significantly reduced. The effects of this syndrome can also be reduced by eliminating mercury contaminated fish and by supporting the intestine's efforts to remove mercury.

Resistant Oral and Intestinal Flora

Another intestinal issue, directly related to excessive amounts of mercury, is the increased

resistance of so-called intestinal ‘super-bugs’ which are resistant to antibacterial and antifungal therapy. The problem occurs because the genetic makeup of these microorganisms can be altered by exposure to mercury, making them resistant not only to mercury but also to antibiotics and anti-fungal medicine. These resistant super-bugs are then able to pass on their resistance to mercury, and antibiotic and antifungal medication, to subsequent generations of microflora, in both the mouth and the intestine. Once resistance is achieved, the oral and intestinal flora can multiply rapidly, quickly overgrowing other healthy flora and creating **numerous** oral and intestinal problems, such as Candidiasis.

Candidiasis is caused by Candida, the fungus responsible for this extremely common yeast infection. Candidiasis often occurs simultaneously with mercury toxicity. This makes it even more difficult to treat because mercury actually exerts a protective effect over this yeast.

Professor Robin Rowbury, and his colleagues at the Eastman Dental Institute in London, England, studied the relationship between amalgam fillings and resistant oral flora. He said that if an association between mercury released from amalgam fillings and antibiotic resistance indeed exists, the implications are enormous. He went on to say that mercury has the ability to induce genetic resistance to antibiotics in oral bacteria. These same, now resistant, oral bacteria can then contribute to a number of very serious health issues, such as endocarditis and sinusitis, and an increased risk of severe pulmonary infections.

Another Benefit of Removing Mercury

The fact that mercury can induce bacterial resistance to antibiotics, in my opinion, is but another example of mercury’s very destructive indirect effect on overall health. Therefore, until mercury amalgam fillings are removed, the body’s burden of mercury is reduced, and the intestine is protected, the detrimental effects of mercury on the intestine will continue, regardless of how the related symptoms are treated. As long as the treatment of these intestinal conditions is directed at the symptoms and not the cause, the relief will only be temporary. This can lead to a frustrated patient and an equally frustrated health professional.

Studies looking at the link between mercury amalgam fillings and antibiotic resistance have confirmed that as the number of amalgam fillings increased, so did the prevalence of antibiotic resistant bacteria. But what I find even more interesting is that the bacteria involved in gum disease, which have also become increasingly resistant to antibiotics, are no longer able to sustain their resistance after mercury amalgam fillings have been removed. I believe that will also be true of intestinal bacteria.

Oral Intestinal Support

In designing my program I made sure that many of the supplements I recommend will also help bind mercury as it passes through the intestine. Thus, these supplements can help remove mercury on two fronts; from the body, and as it passes through the intestine. Having these substances available to bind mercury in the body and intestine throughout a 24-hr cycle is extremely important.

A list of the supplements supporting intestinal health is presented below:

Intestinal Support Products	
R-Alpha lipoic acid	Free amino acid complex
Activated Charcoal	Garlic
Chlorella	L-Glutathione
DMSA (oral)	NAC
Fiber/psyllium	Whey protein

I've said this but it deserves repeating here. The body is continuously releasing mercury into the intestine from the liver/common bile duct throughout the day and night. This includes the non-eating periods, such as during sleep, when intestinal support supplements won't normally be available. So it is important throughout the day to provide the intestine with every opportunity to prevent mercury from being reabsorbed. The proper use of psyllium will also provide some intestinal support during sleep by helping to bind mercury.

Mechanical Intestinal Support

The two most important ways to mechanically support the intestine in its efforts to remove mercury are colonics and enemas. There are many reasons to have regular colon (large intestine) cleanses, but I'll limit my focus to mercury. Whenever bacteria in the colon are destroyed, their contents are released. If mercury is present in these bacteria it too will be released, but now as organic mercury. Colon cleansing can be helpful in removing this type of mercury from the large intestine, along with other harmful intestinal flora, such as Candida. Because mercury can promote an overproduction of harmful intestinal flora, this type of treatment will be very beneficial to the detoxification program. Keep in mind that the good flora is removed during this process and needs to be replaced.

Everyone who really understands the fundamentals of detoxification knows that a healthy liver is essential to removing mercury from the body. But a healthy intestine is also important for a healthy liver. As long as the liver is able to pass mercury into the common bile duct and into the intestine, it will do so non-stop, 24/7. If movement of the feces out of the large intestine is blocked or severely reduced, (as with constipation), mercury and other toxins cannot be effectively removed. This means that more mercury will then be reabsorbed, which in turn places additional stress on the liver and the rest of the immune system.

Once mercury gets into the colon, the picture changes somewhat. Mechanical colon support becomes more essential during the early stages of mercury detoxification because much more mercury will enter the intestine. The result is that more of it will be available for conversion to organic mercury by bacteria and be more available for re-absorption.

The colon does not have the benefit of utilizing the oral support supplements that are part of my program because most of them that have entered the small intestine will have already been absorbed into the body, or will have bonded with the mercury it can access. This could mean that substantial amounts of unbound mercury will pass into the colon.

Thus, it's easy to see why timely colonics and enemas are an important part of a mercury detoxification program, certainly in its early stages. While there is a consensus regarding the value of colonics, there's little consensus about when and how often to have them. Some believe that three to four colonics per year is enough. Others say you should start with three to four colonics, each separated by a week to ten days.

Some colonic therapists recommend an average of eight visits to properly clean the entire colon. Deciding how many to have in a given period of time is an individual thing, so you'll have

to rely on your health professional and the colonic expert you trust. But as in everything related to mercury detoxification, I suggest that you have the person doing the colonics fully evaluate your state of health and explain his or her rationale to your satisfaction.

Enemas aren't nearly as effective as colonics at cleansing the entire colon, but I believe they can still be used to support a detoxification program. An advantage of enemas is that they can be done at home. There are two main differences between an enema and a colonic. An enema uses one to two quarts of water whereas a colonic may use up to ten gallons. A more significant difference is that a colonic can cleanse the entire colon, about five feet, while an enema can access only the lowest 10 to 14 inches or so. Beliefs about what substances to add to an enema and how often to take them vary. I suggest asking the person who you are consulting with for advice.

Constipation

I'd be remiss if I didn't re-emphasize the extremely harmful effect that constipation can have on a detoxification program. Constipation contributes to many health issues but the fact that it can dramatically increase the amount of mercury that's re-absorbed into the body is one of the worst. I don't believe anyone who is moderately or severely constipated should participate in a mercury detoxification program until that issue is resolved. Undergoing aggressive mercury detoxification while constipated could create more problems than delaying the program.

Constipation may be a symptom of serious health problems. If it persists, it should be evaluated by a health professional.

Brain Food

There's absolutely no doubt that that the supplements I recommend will help remove mercury from the general body and brain. Doing so is highly beneficial and should result in a lessening of symptoms directly and indirectly related to chronic mercury poisoning. In fact, many of the supplements I recommend will support brain health in a number of ways; acting as antioxidants that remove mercury and serving to protect the brain against further damage.

While they play an indisputable role in removing mercury and improving overall health, most of the specific detoxification supplements won't directly help the brain repair the damage that mercury has done to it. Hence, the act of removing mercury from the brain doesn't mean that it will be able to adequately repair itself.

Consequently, I believe that if a detoxification program is to achieve optimal success, brain food supplements should be an essential part of it. Supplying the brain with them will provide it with what it needs to:

- | |
|--|
| <ul style="list-style-type: none">• Help repair the damage already done.• Restore as much function as possible.• Protect it from further damage. |
|--|

Mercury can stay in the brain for a very long time. In fact, most people who are mercury toxic are already very deficient in the substances required for brain health and will definitely need supplementation to accelerate healing once the mercury has been removed.

There is another important factor relating to the powerful effect mercury has on the brain and why it can take so long to remove it. As you know, if enough mercury accumulates in any brain

cell, over time it can kill that cell. When a cell dies the body's scavengers rush to the scene, clean up what remains and recycle the cellular components. But if a person is deficient in the antioxidants needed to capture the mercury released from the dead cell it will now be available to move into other brain cells. In this way mercury can continue to do its damage to brain cells, even if no more mercury enters the brain! Definitely something to think about.

Brain cells that are not irreversibly damaged retain the ability to repair themselves. But brain cells that have been destroyed or damaged beyond repair can't be replaced. The brain starts life with a fixed number of cells but not every cell will still be functioning as we grow older. While all brain cells are necessary, the brain has a built-in redundancy. This means that the damage or destruction of one cell, or even a thousand, may not manifest a loss of function or lead to observable symptoms.

If you truly want to restore brain health and function you must provide your brain with supplements and foods specifically designed to promote the healing of brain and central nervous cells.

When to Add Brain Supplements

I believe that adding brain food supplements will be most effective after mercury levels in the general body have been reduced. When this happens the body will be more effective at removing mercury from the brain. Basically, the same process the body uses to remove mercury from the general body takes place in the brain. Once the body's natural chelators, GSH, alpha lipoic acid, etc., have captured mercury they will take it out of the brain and remove it via the feces. The reasoning this is that:

- When substantial amounts of mercury have been removed from the general body, more and more antioxidants will be available to seek out mercury that is stored in the brain and CNS.
- As long as mercury is still attached to sites in the brain and interfering with cellular function, no amount of the brain food supplements will be able to repair the damage.

Remember, brain food supplements don't function as mercury chelators and can't remove mercury. Once general body symptoms have improved (usually 3-12 months for most people) you can introduce the brain food nutrients.

If improvement in mercury related symptoms ceases prior to introducing brain food supplements — but improves after taking them — this will be the result of the body repairing and healing brain cells.

Mercury is not only a powerful neurotoxin that damages and destroys brain cells but it also increases the permeability of the blood brain barrier (BBB), making the brain more vulnerable to exposure from other harmful toxins. The good news is that when amalgam fillings have been removed and levels of mercury decrease, especially in the brain and CNS, the permeability of the blood brain barrier should improve. The body is truly a miracle in action and once the source of toxic stress is removed and the necessary nutrients are provided, the cells of the body and brain can do a wonderful job of repairing themselves.

Supplements that Support the Brain

Following are brief descriptions of supplements that support brain health and help heal brain cells damaged by mercury or other substances. All the brain supplements listed serve many

other functions but those benefits won't be covered here. These supplements are all available without prescription and can be found in health food stores.

Acetyl-L-Carnitine (ALC)

Acetyl-L-Carnitine is the more bioavailable form of the amino acid carnitine. It's manufactured in animal liver, kidneys, and brain tissue, and plays an important part in brain cell energy metabolism and blood flow. This is another supplement that vegetarians could be lacking. ALC easily crosses the blood brain barrier and:

- Is a potent antioxidant.
- Improves neuronal metabolism.
- Helps repair cellular damage.
- Promotes production of the neurotransmitter acetyl choline.

ALC also helps to prevent nerve cell damage and brain deterioration related to aging and stress. In addition, it has been shown to decrease anxiety and depression. In sufficient amounts it can help reduce some of the symptoms of Alzheimer's disease.

Dihydroepiandrosterone (DHEA)

DHEA is essential for nurturing the growth and function of neuron dendrites, the tiny branching fibers that help brain cells stay in touch with one another. In short, they keep the brain's communication network in healthy working order. Those taking DHEA report an improved ability to deal with stressful situations, increased energy, enhanced memory and cognitive functions, deeper sleep, improved mood, and a more relaxed feeling.

This is important because an often reported symptom of mercury toxicity is depression and memory loss. It is logical to assume that removing mercury and healing brain cells could be a natural way to help treat these symptoms. Mercury detoxification and subsequent brain support should also be considered as a secondary form of treatment for those withdrawing from prescription anti-depressants. DHEA may not be for everyone and, although it's sold over-the-counter, I believe that DHEA should only be taken under the supervision of a qualified health professional.

Docosahexanoic Acid (DHA)

Docosahexanoic acid is an omega-3 fatty acid that functions as an important structural component of cell membranes surrounding nerve cells. Some believe that changes in the composition and metabolism of fatty acids, such as DHA, may contribute to Alzheimer's disease. DHA is very important to brain health because it is necessary for healthy cellular membranes. It also plays a key role in controlling membrane fluidity and allowing oxygen and nutrients to enter the cell. It is known that DHA is central to brain cell health and may also reduce depression and schizophrenia. DHA is thought to play a role in regulating the movement of calcium into brain cells. We know that too much calcium in the cells can lead to formation of toxic proteins found in Alzheimer patients.

Ginkgo Biloba

Ginkgo biloba is capable of crossing the blood-brain barrier and can enhance blood

circulation in both the brain and the general body. It has become one of the most extensively studied nutritional supplements, especially relating to neurodegenerative conditions. In a placebo-controlled, double blind randomized trial published in the *Journal of the American Medical Association*, not only did ginkgo biloba stabilize the symptoms of Alzheimer's disease, but also improved the performance of many participants on various standardized psychological tests.

Ginkgo biloba offers many benefits, but there are some side-effects you should be aware of. It is not recommended if:

1. You are taking monoamine oxidase inhibitors (an antidepressant group of compounds)
2. You have a blood clotting disorder
3. You are pregnant

Nicotinamide Adenine Dinucleotide (NADH)

All living cells contain the co-enzyme NADH, a substance synthesized by the body from niacin. Increased concentrations of NADH in the brain have been shown to boost the production of important neurotransmitters. NADH has been used to treat:

Alzheimer's Disease Chronic fatigue syndrome Fibromyalgia

All of the above conditions have a relationship to chronic mercury poisoning. Another benefit of NADH is its ability to help transform the amino acid tyrosine into the brain chemical dopamine. Dopamine is necessary for mood elevation, energy, sexual drive, concentration, memory, and normal muscle movement.

In one study, Forsyth found that the oral form of NADH helped a small group of patients with chronic fatigue syndrome (CFS) which suggested that NADH may be a valuable adjunctive therapy in the management of it. Researchers are currently studying the value of NADH in both oral and injected form for improving mental function in people with Alzheimer's disease and for minimizing physical disability in people with Parkinson's disease. NADH is found in meat, fish, and poultry. Because the NADH content in fruits and vegetables is minimal it could be an important supplement for vegetarians.

Phosphatidylserine (PS)

Phosphatidylserine is one of the more important phospholipids in the brain and shows great promise in improving brain health and function. A naturally-occurring phospholipid found in all cells, PS is important to the healthy function of neurons and other brain cells. It has been shown that PS is important for improving memory, learning, word recall, and other cognitive factors. There is also evidence that it is an effective treatment for:

1. Mood and personality disorders;
2. Managing stress;
3. Removing and detoxifying dead brain cells; and
4. Cellular repair and regeneration.

While PS performs its vital functions in all cells, it seems to play an important role in the

healthy functioning of brain cells. This fact alone makes it an essential part of the brain support portion of my program. As discussed above, mercury damages and kills nerve cells, and one of its earliest effects is on memory.

Phosphatidyl Choline (PC)

Phosphatidyl Choline helps protect the cells of the brain and nervous system from toxic substances and is an important source of choline. Choline is necessary for the production of acetylcholine, the key brain neurotransmitter necessary for memory and other key brain functions. Another way to look at this is that you need to be able to connect the dots. The fact is that even though brain cells may be healthy, if there isn't enough acetylcholine the memory will not function properly.

S-Adenosylmethionine (S-AMe)

According to Lombard and Germano, S-AMe has brain-boosting properties. "S-AMe has a beneficial effect on key neurotransmitters affecting mood, such as norepinephrine and serotonin. S-AMe acts as a natural antidepressant without the side-effects of prescription antidepressants currently on the market."

Warning

While all the brain support supplements offer important benefits they can have dose related side-effects for some people. These side-effects usually affect only a small percentage of people taking them. In general, the extent and severity of side-effects will increase with the dosage. Please consult your health professional before taking any of the brain supplements listed above if you are:

- | |
|--|
| Pregnant
Being treated for any disease or condition
Taking any prescription medication |
|--|

Brain Food Chart

Following is a chart that provides the dosages and other key information about the supplements I recommend for brain support.

Brain Food Chart		
<i>Supplement</i>	<i>Dosage</i>	<i>Special Instructions</i>
Acetyl-L-Carnitine (ALC)	Oral dose: 500 mg One to two capsules/day, on an empty stomach. May increase to 4 capsules per day.	Avoid taking in the evening, as it may have a stimulating effect. Take with water or juice 30-45 minutes before breakfast and lunch
Dihydroepiandrosterone (DHEA)	25-50 mg at breakfast	I suggest that you take it only under the supervision of a health professional.
Docosahexanoic Acid (DHA)	150 mg 2/day	With meals
Ginko Biloba	Two, 60 mg capsules, 2/day	With meals
NADH nicotinamide	2.5 mg/day, gradually increasing 5	Take with water 30 minutes

Brain Food Chart		
<i>Supplement</i>	<i>Dosage</i>	<i>Special Instructions</i>
adenine dinucleotide)	mg/day over a 2 to 3 week period.	prior to breakfast More than 10 mg/day may cause jitteriness, anxiety, insomnia
Phosphatidylserine (PS)	100 mg capsule/day	½ hour prior to breakfast or lunch. Take with plenty of water
Phosphatidyl Choline (PC)	250-400 mg/day	With a meal
S-Adenosylmethionine (S-AMe)	200 mg/day. Can increase to 200 mg, 2x/day after 2 weeks	S-AMe is best taken on an empty stomach, ½ hour before or 2 ½ hours after meals. Take with plenty of water Don't take within 4 hours of bedtime

If any of the brain food supplements taken on an empty stomach cause stomach upset, try taking them with a meal. You can also reduce the dosage until the symptoms disappear. If the upset persists, discontinue and inform your health professional. A sample of the Brain Food Schedule Chart is found in Appendix G, [page 137](#).

In order to minimize any dose related side-effects, I encourage you to tolerance test any of the brain supplements you decide to take. Information on tolerance testing is provided in the next Chapter.

Chapter 7

The Program Guide

Whether details bore you or excite you, everyone will appreciate this chapter. Here I lay out the entire program step-by-step and those who only want the bare essentials will find them here.

You now understand the basics of a mercury detoxification program. This is equivalent to knowing everything about how a car works and now it's time to get behind the wheel and drive. I've made everything as easy as possible, with charts, schedules, and step-by-step descriptions to guide you through the process of naturally and safely removing mercury from your body.

When to Begin

When should you actually begin your detoxification program? Ideally, I recommend starting my program today, especially if you still have amalgam fillings. If that's not possible, start as soon as you can—even if it's the day before filling removal begins. If you have any existing health issues the sooner you can start it the better.

Of course, if you've already had your fillings removed, you should also begin my program as soon as possible.

Where to Begin: Tolerance Testing

I have continually stressed the importance of making the program as safe as possible and to support that philosophy, I feel it imperative that you understand the difference between allergies and dose-related reactions. Armed with that understanding you should begin your program by testing your tolerance to some of the supplements you have not previously taken.

Allergies and Dose-Related Side-Effects

The key to understanding the difference between an allergic reaction and a dose-related reaction is this: if it's dose-related, the symptoms experienced will normally go away if you reduce the dose. That's not the case with an allergic response.

Once your body has had an allergic reaction, every time the allergen responsible is introduced, an allergic reaction to it will take place. The severity of the reaction may vary depending on the amount of the substance you would be exposed to, but an allergic response will occur.

Allergies

Generally, people won't be allergic to any pure vitamin that the body manufactures, or to any pure nutritional supplement that is needed by the body. For example, everyone knows, or should know that their health and well-being depends on adequate daily amounts of vitamin C, but not everyone knows that the body can't manufacture it and it must be obtained from outside sources.

I've often heard people say that they had to stop taking vitamin C because they're allergic to it. What they likely experienced was a dose-related reaction from taking too much vitamin C, or an allergy to a binder or filler in the tablet. Unless there's some genetic aberration, no one should be concerned about being allergic to pure vitamin C, or any other biologically essential substance. The most common reaction to too much C is some degree of diarrhea which will alleviate once the dose is reduced.

Dose-Related Side-Effects

It is possible to get dose-related side-effects from any nutritional supplement, including essential vitamins and minerals. The good news is that side-effects are unlikely with reasonable doses of water-soluble vitamins, minerals, and nutritional supplements because your body doesn't store them in any significant amounts. Abnormally high doses of fat-soluble vitamins (e.g. vitamin A) are more likely culprits in dose-related problems. Because they can be stored in the cells of the body, excessive amount can accumulate over time.

Dose-related reactions can vary greatly. No two people are alike in what they need and can safely ingest without experiencing a dose-related side-effect. Recognizing these individual differences, my program recommends lower doses than some other detoxification programs suggest.

For example, with vitamin C, diarrhea could occur for some at 5,000 milligrams (5 grams) per day. For others, it might take 10 grams or more. Some can handle 10 grams spread throughout the day with meals but not the same amount taken in one single dose. You can take comfort from my conservatism in this regard. For most people, the dose I recommend is well below the level where any dose-related side-effects would appear. And it is much safer to increase the dose rather than running into side-effects and then having to reduce it.

Raising or Lowering the Dosage

I'm not saying that you can't take higher dosages of the supplements I recommend, but if you haven't previously taken these supplements I suggest starting the program as it's designed. If no adverse reaction occurs you can continue with that dosage or increase it. If you experience an adverse reaction at or before reaching the recommended dosage, reduce it until you're free of the side-effects and then continue with the lower dosage. If you're already taking vitamin supplements you should have no problem with the recommended dosages and you can increase them as desired.

Side-Effects of Detoxification

I encourage you to consult a health care professional—if you have any adverse side-effects—at any time—and can't determine why they occurred. Many mercury detoxification programs suggest that side-effects such as fatigue, headaches, nausea, and diarrhea are a normal byproduct of detoxifying. I don't believe that's necessarily true because they could very well be a byproduct of detoxifying too rapidly.

My program is specifically designed to minimize or eliminate such unwanted side-effects. I see no reason to create a situation where you'll experience more problems by participating in an overly aggressive detoxification program, than you were experiencing before you started it.

Ponder this for a moment. Say you've had your amalgam fillings for 20 years and your body has been eliminating mercury 24/7 during that 20 year period. During that time you will most likely have developed a number of symptoms that are directly, or indirectly, related to mercury poisoning. You should now be familiar with these symptoms and while they could be slowly getting worse, they will be reasonably consistent from day to day.

But what would you think if after beginning an overly aggressive mercury detoxification program you suddenly started to experience unpleasant side-effects that you never experienced before you began the program?

The obvious question is why should you now suddenly develop these new symptoms? The

answer is that the pace and dosage of an overly aggressive detoxification program was too intense for your system. The dosage of the supplements and the increased amount of mercury being released was simply too much for your body to handle. It isn't that your body can't handle eliminating mercury, after all it has been naturally doing it every day prior to beginning the program—it just may not be able to handle eliminating that much so quickly.

My basic approach to detoxification is simple; as long as you don't accelerate the removal process beyond your body's ability to handle it, you should not experience any unwanted side-effects. Slowing down the detoxification process may mean it may it will take a little longer to remove mercury but you'll benefit from not having to deal with unwanted and unnecessary side-effects.

On the other hand, those whose health and body chemistry allows them to detoxify at a faster pace can increase their dosages, only backing down on the dosage if adverse side-effects appear. Always keep in mind that mercury detoxification is a very individual experience and should be tailored to your needs.

Tolerance Testing Protocol

To help minimize or eliminate any undesirable side-effects, I recommend that you first tolerance test any supplement you haven't taken before. I suggest beginning the tolerance test phase of your mercury detoxification program in the sequence listed in the chart below, adding the supplements as indicated.

NAC, alpha lipoic acid, milk thistle and MSM are considered very safe and, in the dosages I suggest, they should not generate any side-effects. Nevertheless, because your body may not familiar with them in supplemental doses, I advocate tolerance testing to be sure that it can handle them.

The supplement tolerance testing protocol detailed below takes 9 days to complete. None of these supplements should generate an allergic reaction but if an allergic reaction appears, it will usually occur with the second dose. If you're already taking any of the supplements listed and haven't had any side-effects, you may continue taking them during tolerance testing and add the new ones.

Supplement Tolerance Testing	
<i>Day</i>	<i>Scheduled Dosages</i>
1	- NAC—One 500 mg tablet (with a meal)
2	- NAC—increase to one 500 mg tablet 2x/day (with meals)
3	NAC—same as day two - Add Alpha Lipoic Acid—one 50 or 100 mg tablet (with a meal)
4	NAC—same as day two - Alpha Lipoic Acid—increase to one 50 or 100 mg tablet 2x/day (with meals)
5	NAC—same as day two Alpha Lipoic Acid—same as day four - Add Milk Thistle—one 100 mg tablet (with a meal)
6	NAC—same as day two Alpha Lipoic Acid—same as day four - Milk Thistle— increase to one 100 mg tablet, 2x/day (with meals)

7	NAC—Same as day two Alpha Lipoic Acid— same as day four Milk Thistle— same as day six - Add MSM—one 500 mg tablet (with a meal)
8	NAC—same as day two Alpha Lipoic Acid— same as day four Milk Thistle— same as day six MSM—same as day seven - Add Glutathione—one 100 mg (between meals)
9	NAC—same as day two Alpha Lipoic Acid— same as day four Milk Thistle— same as day six MSM—same as day seven - Glutathione—increase to two 100 mg tablet, 2x/day (between meals)
10	Starting on day 10 you will follow the schedule indicated on the Schedule Charts.

If you're new to the world of supplements and unsure how you may react to any other vitamin or nutritional supplement not included in this tolerance test, you can use this model to test your tolerance to any of them. This would also be true of nutritional supplements such as whey protein.

If you've never taken chlorella and plan to include it in your program, I strongly suggest testing your tolerance for it as well. Here's what I suggest:

Chlorella Tolerance Testing*						
<i>Method</i>	<i>Week 1</i>	<i>Week 2</i>	<i>Week 3</i>	<i>Week 4</i>	<i>To End of Program</i>	<i>At End of Program</i>
Capsules	Take 1 capsule 3x/day w/meals.	Take 2 capsules 3x/day w/meals.	Take 3 capsules 3x/day w/meals.	Same as week three	Same as week three	Take one capsule 3x/day w/ meals, Or Discontinue.
Powder/ Granules	Divide 1 packet into 7 servings. Take 1 serving per day with a meal.	Divide 2 packets into 14 servings. Take 2 servings per day w/meals.	Divide 3 packets into 21 servings. Take 3 servings per day, w/meals.	Same as week three	Same as week three	Continue to take one packet/day w/ meals, Or Discontinue.

*In case of burping, diarrhea, or objectionable gas formation, reduce dosage until symptoms disappear. If symptoms don't disappear after reducing the dose, stop taking chlorella.

Tolerance Testing for Brain Support Supplements

If you're planning to add brain support supplements to your program, I've provided a brain tolerance testing chart for you to follow. You don't have to begin tolerance testing until you're ready to add these supplements to your program and it will take 11 days to complete. You may wish to tolerance test in a different order or not include all of the supplements I recommend. In that case, you can design your own chart, following my protocol.

Brain Supplement Tolerance Testing	
<i>Day</i>	<i>Scheduled Dosages</i>
1	- ALC (Acetyl-L-Carnitine)—one 500mg/day (empty stomach)
2	- ALC—increase to two 500mg/day - Add DHEA (Dehydroepiandrosterone)—25mg/day (with breakfast)
3	ALC—same as day 2 DHEA—same as day 2
4	ALC—same as day 2 DHEA—same as day 2 - Add DHA (Docosahexanoic Acid) 150 mg/day (with meal)
5	ALC—same as day 2 DHEA—same as day 2 - DHA—increase to 150 mg, 2/day - Add Ginkgo Biloba One 60 mg capsule/day (with meal)
6	ALC—same as day 2 DHEA—same as day 2 DHA—same as day 5 - Ginkgo Biloba—increase to two 60 mg capsule/2x/day
7	ALC —same as day 2 DHEA—same as day 2 DHA—same as day 5 Ginkgo Biloba—same as day 6 - Add NADH (Nicotinamide Adenine Dinucleotide) 2.5 mg/day (prior to breakfast)
8	ALC—same as day 2 DHEA—same as day 2 DHA—same as day 5 Ginko Biloba—same as day 6 NADH—same as day 7 - Add PS (Phosphatidylserine)-- 50 mg capsule/day (with a meal)
9	ALC—same as day 2 DHEA—same as day 2 DHA—same as day 5 Ginkgo Biloba—same as day 6

	NADH—same as day 7 PS —same as day 8 - Add PC (Phosphatidyl Choline)—250 mg/day (with a meal)
10	ALC—same as day 2 DHEA—same as day 2 DHA—same as day 5 Ginkgo Biloba —same as day 6 NADH —same as day 7 PS —same as day 8 PC—same as day 9 - Add SAmE (SAM-S-adenosylmethionine)—200 mg/day (empty stomach)
11	ALC—same as day 2 DHEA—same as day 2 DHA—same as day 5 Ginkgo Biloba —same as day 6 NADH —same as day 7 PS —same as day 8 PC—same as day 9 SAmE—same as day 10

If tolerance testing doesn't result in any allergy or dose related reactions you can continue with the dosages indicated for Day 11. In **Appendix G** I've provided a Brain Food Supplement Chart to make it easier for you to follow this program. This chart indicates that you should not take brain food supplements on the 7th day of each week.

I also recommend that you continue taking these supplements after you finish the detoxification program, as long as no adverse side-effects appear. Once the symptoms related to chronic mercury poisoning have been eliminated, or have minimized, you may consider reducing the dosage to the minimum dosage used to begin tolerance testing. But remember, brain cells are continually being threatened by more toxic substances than mercury.

If you're working with a health professional, he/she may advise increasing or decreasing the dosage of some or all of the brain support supplements.

The Program: Who Should Participate

Once you've completed tolerance testing you can safely begin your program. The supplement schedule charts I provide will allow you to not only keep track of what you take, but when and how often.

Those Who Still Have Their Fillings

I believe that everyone who still has mercury amalgam fillings should participate in my detoxification program, regardless of their health or the number of symptoms they're experiencing. Everyone who has, or has had, mercury amalgam fillings is mercury toxic; it's just a matter of degree. There are a number of excellent reasons to participate in this program before you have your fillings removed. Doing so will:

- Remove as much mercury from your body as possible before, and during, amalgam filling removal.
- Start to replace necessary essential minerals that have been lost due to long-term exposure to mercury.
- Prepare the body for the short-term increase in exposure to mercury that results from amalgam filling removal. You will still be exposed to some mercury during this procedure even when a safe removal protocol is followed.
- Help rebuild a depleted the immune system.
- Encourage overall healing.
- Help restore the antioxidants needed for the body to remove mercury.

When adequate levels of key vitamins, minerals, and other nutrients are maintained, the effects of heavy metal poisoning are significantly reduced. Also, deficiencies in these important substances can contribute to the continued accumulation of mercury and other heavy metals.

If you're presently taking prescribed medication(s), ask your physician or other health professional if any of the program's detoxification supplements are contraindicated. If they are, ask for substitutes.

Those Who Have Had Their Fillings Removed

If you've already had your mercury amalgam fillings removed and have completed tolerance testing, you can also immediately begin the program.

In addition, some people may be candidates for a pharmaceutical chelator. If your health professional supports using one, I suggest DMSA, which requires a prescription, but it shouldn't be taken until *after* your fillings have been removed. I discuss DMSA and DMPS, in detail in Chapter 9.

Dentists, Dental Assistants, and Hygienists

I believe that every dentist, dental assistant, and dental hygienist should participate in the program. I include dentists whose practices are mercury free because even though they use safe removal protocols to protect the patient and themselves, they are still being exposed to mercury on a daily basis. Thus, even if they no longer have amalgam fillings mercury could still be accumulating in their bodies from the second-hand exposure.

The dentist and staff at the greatest risk are those who not only don't use the safe removal protocols, but are also placing mercury amalgam fillings. This is because their exposure to mercury is far greater than a mercury free dentist.

Supplement Schedule Charts

I realize that you may not be used to taking the number of supplements recommended in my program. Keeping track of what to take, how many to take, and when to take them can be difficult and frustrating. Too much difficulty in this area can lead to a lack of compliance and following the supplementation protocol is one of the most important elements to the success of my detoxification program.

To help insure that you'll adhere to your program, I have invented a system that makes keeping track of supplements very easy—my Supplement Schedule Charts. If you use my charts

you won't have to rely on your memory to keep track of what you should take, how much, and how often. Remember, if you don't take the supplements as recommended, the program may not achieve the desired results.

Ultimately, the value of the Supplement Schedule Charts is to condense all of the information you've learned about the supplements I advocate into a practical and usable format. They will also save you the trouble of continually referring to the book.

Types of Charts

All the schedule charts described below and a printable version of each is available in Appendix G: *Sample Charts*, page 137. Which ones you decide to use will depend on your situation, such as the extent of your participation.

For example, if you plan to monitor your program with the Subjective Symptoms Chart, decide to take brain supplements, and need the Blank Chart to list additional supplements and medications, you'll need 4 of the 5 charts. Each will be explained below.

Supplement schedule chart

Everyone will start with this chart whether you still have your amalgam fillings or they have already been removed. This chart lists the generic vitamin and nutritional supplements. It includes dosages, schedules, special instructions, and where to go in the book for additional information.

Brain support chart

This chart lists the brain food supplements. Chapter 6, *Support for the Intestine and Brain*, page 72, provides a detailed description of the ones I recommend. You or your health professional may want to add to or remove supplements from this list, or increase or decrease the dosage. The chart's flexibility allows for all options. Simply white-out anything you won't be taking, write in those you're adding, and change the dosage and schedule as needed. Once you've customized it you can then use it as your master chart to make copies from.

Subjective symptom chart

This chart will allow you to keep track of all of the symptoms you experienced prior to starting the program. As you continue monitoring your subjective symptom improvement you'll be able to track your changes. This form of monitoring will be discussed in detail in Chapter 8, *Monitoring the Program*, page 99.

Blank supplement chart

This chart is left blank and is included for those who need additional space. For example, you may already be taking more supplements than I suggest and by adding those supplements to my Schedule Chart you may run out of room. You may also want to use it to keep track of any prescription medications you're taking. If you decide to change the dosage and the scheduling that I've established you can use the Blank Chart to list those changes. But always retain the blank copy as your master so you can make extra copies as needed.

Health maintenance chart

This chart can be used to keep track of the supplements I recommend you take to sustain the state of health you will achieve with the detoxification program. Information about my suggestions is found in **Appendix H**.

How to Use the Charts

The most effective way to use my charts is to:

- Access the ones you need from **Appendix G: Sample Charts**. The charts are in a format and they can be printed out on 8 1/2" x 11" paper. This size makes them much easier to use. They will be in a PDF format and instructions on how to print them will be found in the Appendix.
- Keep an original copy of each one you print and save it as your **Master Copy**. Make additional copies from this master as needed. Be sure to make copies *before* you're tempted to mark up the masters! The Supplement Schedule Chart, and others, will support one week of the program, so you may want to make a few weeks' worth of copies at the same time. You can also print out several copies of the same chart and you can print more as needed.
- Save all of your completed charts in a separate file. This will have value in helping to monitor your program and provide any necessary information to your health professional.

Be creative. You can customize any of the charts. Just white-out the information you want to change, write in your changes, and then use that as the master copy. Voila! You have a new master from which to make as many copies as you need.

Sample Chart

Below is a sample of the actual Supplement Schedule Chart that is used in the program. This and the other charts are self-explanatory and very easy to use. To keep track of the supplements you've taken each day, simply check the appropriate BLD column (Breakfast/Lunch/Dinner) box when you take each supplement.

For example, if you're taking R-alpha lipoic acid twice a day, check off the B box when you take it at breakfast, and the D box when you take it at dinner. The **Notes** and **Legends** found at the bottom of the charts will provide you with additional information to help you understand how to more effectively use the charts. In some cases I will refer you to sections in the book that discuss a particular supplement that requires special instruction.

A day of rest

I recommend that you take one day of each week as a supplement rest day and suggest that you don't take most of the supplements on that day. In the table below, I use Sunday as the weekly "supplement day off". As long as it's the same day every week, you can make any day your 'day off' day, but be sure to X out the day you select. If a supplement is not X'd out on day 7 of my chart make sure you take it on your day off.

Supplement Schedule Chart: Mercury Detoxification Program

Please go to the next page to review the Supplement Schedule Chart.

The Program at a Glance

The table below provides an overview of the activities that make up my mercury detoxification program. It also includes references to sections in the book where information pertaining to specific subjects can be found.

I strongly suggest, unless there is a sound medical reason not to, that you include my mercury detoxification program as a part of any treatment you're now receiving for any existing health issues.

When the total body burden of mercury is diminished or eliminated, a symptom or disease, that your health professional may have associated with other health issues, could show improvement, or disappear altogether. You don't have to wait to start your mercury detoxification program until an existing health issue, which is directly or indirectly related to chronic mercury poisoning, is completely resolved. If you do wait and the health issue that was related to chronic mercury poisoning, you may never begin the program.

The Program at a Glance	
<i>Activity</i>	<i>Chapter</i>
Take fecal metals test and, or, hair analysis to establish baselines for future objective monitoring.	8
Do a subjective symptom evaluation to establish baselines for future subjective Monitoring.	
Do tolerance testing for suggested supplements.	8
Begin taking recommended supplements to prepare for removal of mercury amalgam fillings.	4, 5, 6
The day the last filling has been removed: Do tolerance testing for DMSA (if applicable).	9
If appropriate and with the support of a health professional, add DMSA to the program. Only continue with it if you have no adverse reactions to tolerance testing.	9
3 month mark – At the end of the third month of the program, monitor your progress with both objective and subjective testing. If levels of mercury have been substantially decreased and general body symptoms have been reduced or eliminated, add brain food supplementation.	8, A-G*
6-month mark – At the end of the sixth month of the program, monitor your progress with both objective and subjective testing. If levels of mercury weren't substantially reduced at the 3-month mark but are at the end of the 6 th month, you can add brain food supplements. End the DMSA phase of the program, if applicable.	6, 8, A-G
9-month mark – At the end of the ninth month of the program, monitor your progress with both objective and subjective testing.	8, A-G
12-month mark – At the end of the first year of the program, monitor your progress with both objective and subjective testing. Depending on the objective test results, seek the advice of a health professional, and together with your own subjective evaluation, a decision whether to continue with the program or end it can	8, A-G

The Program at a Glance	
<i>Activity</i>	<i>Chapter</i>
be made.	
<p>After One Year – If a decision is made to continue the program past the first year, I recommend following the same protocol as the first year for the supplements, and objective and subjective monitoring. <i>DMSA should not be continued without consulting with your health professional.</i></p> <p>Remember, everyone is different in the extent of their toxicity and how they detoxify. Many mercury detoxification programs can last for more than one year and it is important to be patient. Whenever you decide to end the program you can switch to the Health Maintenance Program, Appendix H, page 143.</p>	A-H

*When you see A-followed by a letter it means see Appendix.

Length of the Detoxification Program

As you have learned, the length of the detoxification program will vary from person to person. I offer more specific recommendations in the next section, but if you're under the care of a health professional or dentist, he or she will help guide you with this. The information from objective testing on the levels of mercury being eliminated will also help determine its length. Ultimately, your subjective evaluation of your symptom improvement will be the most important guide as to how long you'll need to participate.

Generally speaking, four factors will determine the length of any mercury detoxification program. These include the:

1. Severity and duration of your mercury related symptoms and diseases when you begin the program. This will be directly related to the amount of mercury stored in your body;
2. Overall state of your health—especially your immune/detoxification systems—when you begin the program; and
3. Your adherence to the program.

Following are several possible scenarios and guidelines for the length of each phase of the program. These are very general guidelines and should be coordinated with the results of your subjective symptom evaluation and objective fecal metals test. They should also be evaluated by your health professional if he, or she, is supporting your efforts at detoxifying mercury.

Determining the Length of the Program	
<i>Scenario</i>	<i>Recommendations</i>
Your amalgam fillings have been removed and you have few or no obvious general body or CNS symptoms of mercury toxicity.	<p>Follow program for 3 - 6 months* and evaluate the results.</p> <p><i>*If any symptoms related to chronic mercury poisoning do not show improvement after the first 6 months, you should bring it to the attention of your health professional.</i></p>
Your fillings have been removed and you have mild to moderate mercury-related symptoms.	Do post-removal program for 9 to 12 months and evaluate the results.

Determining the Length of the Program	
<i>Scenario</i>	<i>Recommendations</i>
<ul style="list-style-type: none"> • Your fillings have been removed. • You had many amalgam fillings for an extended period of time. • You're in the high-risk category for mercury exposure. • You have multiple symptoms and health issues that could be directly connected to chronic mercury poisoning. 	<p>Maintain the program for at least 18 months. This is especially important if you have any neurological symptoms related to chronic mercury poisoning.</p>
<p>You have faithfully followed the program for 1 to 1-1/2 years, but some of your symptoms haven't improved.</p>	<p>Again, consult with a physician or other health professional about other possible causes related to your remaining symptoms or health problems. Mercury isn't the only health villain.</p>

What to Look For: Improvements

Even if you don't participate in a mercury detoxification program, a number of mercury-related symptoms should improve somewhat within a year after your fillings have been removed. This is more likely with non-CNS related symptoms. Such improvement is fairly common, particularly for those who have fewer symptoms and have had amalgam fillings for the shortest length of time. But unless a detoxification program is initiated, improvements in symptoms that have existed for the longest period of time, and are more severe, may slow and then stop.

I believe that the initial improvement in symptoms is the direct result of eliminating the main source of mercury exposure—amalgam fillings; thereby allowing the body to devote more resources to eliminating the accumulated mercury. Even if the body is still deficient in antioxidants and even without additional supplementation, it will still make every effort to remove mercury; but often at the expense of protecting the body against other toxins and free radicals.

But at some point, especially in those with the greatest burden of mercury, the body simply can no longer eliminate meaningful amounts of it without outside help. As you know, severe mercury-related symptoms take longer to resolve if they're neurological in origin; even if you take supplements and brain food. But without the support provided by a detoxification program, it is doubtful that the improvements you hope for will occur, or will take much, much longer.

If you don't participate in a mercury detoxification program, the improvement you see in the first few months after the fillings have been removed may slow or even level off. This could be an indication that the body is extremely mercury toxic and without additional support, the immune system could be so depleted that it can no longer remove enough mercury to eliminate or diminish a related symptom.

Patience is a Virtue

For those who are extremely toxic this concept is important to understand. Many people aren't aware of the long-term effects of chronic mercury poisoning. The tendency is to think that if a symptom or disease doesn't improve immediately, or shortly after having mercury amalgam fillings removed, it must mean that mercury wasn't the cause. Often a person will then attempt to

seek out other reasons for their health problems but if they were mercury related, he or she may never find resolution to them. The fact is that long-term participation in a detoxification program may be the only way you can ever hope to see further improvement in those symptoms directly and indirectly related to mercury poisoning.

It's easy to see how an excessive body burden of mercury, and a depleted immune system, could result in a much slower improvement rate. In some cases, it's also possible that there are other contributing health issues and these will have to be dealt with during, or after, the detoxification program.

But in most cases, once the source of mercury has been eliminated and a detoxification program initiated, the body will respond positively to your efforts. When provided with essential supplements, especially if they have been depleted, the body will continue its task of removing mercury and begin to heal itself from its toxic effects.

If you find yourself in this situation, the key is to **be patient**. It took many years to accumulate the mercury that is stored in your body and it can **never** be eliminated overnight. Another reason to be patient is that the program is health building and will be beneficial to you in many other ways than just facilitating the removal of mercury.

On Completion of the Program

Once you complete your mercury detoxification program you'll know which of your previous symptoms were related to mercury poisoning, as they will obviously be the ones that are eliminated or show the most improvement.

Assuming that you've fully complied with all aspects of the program and that both the objective and subjective tests indicate a successful outcome, your health professional can now focus treatment on other causative factors. But you must also realize that some symptoms or illnesses that are the result of irreversible mercury damage may never be fully eliminated.

What's Next

The next two chapters will deal with the final two elements of a mercury detoxification program—monitoring and pharmaceutical chelators. Although these two components can add positive support to the program, I still consider them *optional*. I say this because not everyone will need to include a pharmaceutical chelator for their program to be successful and although monitoring can provide valuable feedback, it isn't essential to its success. Whether you take advantage of these two elements is for you to decide. But I do feel a responsibility to provide you with the information you'll need to make that choice.

Chapter 8

Monitoring Your Program

Monitoring your progress, by both subjective and objective testing is another innovative aspect of my program. This testing helps you and any supporting health professional review your progress, and determine if the dosage of certain supplements needs to be adjusted, or if any other changes need to be made. It can also help gauge how long the program should last.

But keep in mind that ultimately the key to any successful detoxification effort is to fully comply with the program. If you do this, your body will soon tell you how well it is working, regardless of whether you monitor it or not. Even if you decide not to monitor your program, the benefits you receive from participating in the program will still occur.

In this chapter, I describe two methods of monitoring the effectiveness of a mercury detoxification program:

Objective Laboratory Testing

I recommend using the fecal metals test to monitor the amount of mercury leaving your body. This is done by comparing your initial fecal mercury reference levels to levels from succeeding tests taken at various times throughout the program. If you decide to include this form of testing you'll need your health professional, or participating dentist, to order the test kit for you.

Subjective Monitoring of Symptoms

My Subjective Symptom Chart is used to monitor subjective changes in symptoms. It will allow you to compare how you felt prior to beginning the program to improvements you experience during, and at the end of the program. I think monitoring symptoms is very important for some people as they can easily forget how they felt when they started, and recording the improvements can be very motivating.

When to Begin Monitoring

If you decide to monitor, either objectively, subjectively, or both, it will be more useful if you start the process prior to beginning the detoxification program. Doing so will give you a more appropriate reference point, or baseline, from which to evaluate the program at future intervals. But it is valuable to begin monitoring at any time as it will still generate a baseline reference point.

Objective Testing

A number of commonly used tests can detect the presence of mercury in, or leaving, the body. Both the fecal metals test and the urine mercury challenge test can confirm that mercury is being eliminated from the body. A blood test can show if mercury was present in your blood at the time it was drawn. A hair analysis test can tell you if mercury was present in your body one to three months prior to taking the hair sample.

While each test can provide some basic information about mercury, *no* test for mercury will conclusively tell you:

1. The exact source of the mercury exposure.
2. The type of mercury you were exposed to.

3. The duration of the exposure.
4. The daily exposure amounts.
5. The total amount of mercury that has accumulated in your body.
6. Where the mercury is stored in your general body.
7. How much mercury has accumulated in the brain.
8. How much actual damage mercury has done, or will, do to your health.
9. The specific symptom or disease mercury may contribute to, make worse, or cause.

Despite their limitations, I believe that the fecal metals and the urine mercury challenge tests can be the most helpful in monitoring the body's effectiveness at eliminating mercury. Of the two, I believe the fecal metals test is the most effective. If evaluated correctly, this test can provide valuable information, especially when compared to people tested who never had amalgam fillings.

You may have read or been told that blood and hair analysis tests can be effective for determining the body's mercury levels, or for monitoring a mercury detoxification program. I don't concur. More specific information about the blood, hair, and urine mercury tests can be found in **Appendix D**.

Each "objective" test for mercury will indicate a so-called "safe or normal" reference range, but as far as your body is concerned—**there's no such thing as a safe or normal level of mercury**. Just think for a moment. What if a particular test indicated that 25 mcg of mercury is considered toxic and your test shows 24 mcg? Would that mean that you aren't mercury toxic just because you "only" had 24 mcg of it? Would you conclude that your mercury levels were in the safe range? Would these results indicate that you wouldn't be mercury toxic unless you had one more microgram of mercury? I don't think so.

So keep in mind that any amount of mercury in your body is harmful, even one atom (remember, one microgram of mercury contains roughly 300 trillion atoms of mercury)! The bottom line is this; all of the tests' reference ranges for mercury are relative and there is no such thing as a safe range. These ranges only indicate that if your test results showed that you were below the normal range, the chances are you will not manifest any observable symptoms related to chronic mercury poisoning. But it doesn't mean that the mercury that's still there isn't causing harm, because it is.

Several other tests, including the mercury vapor test, galvanic testing, saliva test, and mercury patch test, directly or indirectly indicate the presence of mercury. Each test has value but none deals with mercury that is actually in your body, or being removed from it. I don't discuss them here because they have no specific value to a mercury detoxification program.

Fecal Metals Test

Because 90% of the mercury eliminated by the body's **natural** detoxification/chelation process is via the liver/common bile duct/intestine/feces pathway, any objective monitoring should include the fecal metals test. The fecal metals test offers a number of distinct advantages over any other test for mercury because it:

- Demonstrates that there's a direct correlation between fecal mercury levels and the number of amalgam fillings.
- Shows that once the fillings have been removed, fecal mercury levels now reflect the body burden of mercury that has accumulated from fillings.
- Allows your health professional to compare apples to apples, because no external provoking agent (such as a pharmaceutical chelator) is required and each test is evaluated in the same way.
- Accurately reflects the body's ability to remove mercury naturally. This can help your health professional to evaluate how effectively your immune system is functioning.
- Eliminates the concern about undesirable side-effects, such as an allergic or dose related reaction that may occur with tests requiring a pharmaceutical chelating agent.
- Is a simple, non-invasive procedure that can be done at home.
- Is ideal for children and chemically sensitive patients because it doesn't require any drugs, or other products.
- Is ideal for anyone with kidney problems that would preclude using a pharmaceutical chelator.

In addition, the fecal metals test can help determine:

- Whether your body's main detoxification pathway, the liver, is eliminating mercury.
- If the amount of mercury you're eliminating puts your body burden of mercury in the so-called "normal" range or not.
- The effectiveness of the program by comparing mercury prior to starting the program to levels taken at periodic intervals.
- Your fecal mercury levels compared to those of people who didn't have amalgam fillings at the time they took the test.

While it's possible to use the fecal metals test solely for mercury, I suggest you be tested for the full range of toxic metals. Some of these metals are synergistic, such as lead and mercury, and acting together they generate more severe symptoms than each one would cause individually.

Because some of these other toxic metals are removed along with mercury I think it's a good idea to keep track of all of them. Doing so will help monitor which ones are being removed and their rate of removal. As levels of these other poisonous metals decrease, a greater amount of the body's metal chelating antioxidants will become available to remove more and more mercury. Thus, one would expect mercury removal to increase proportionately.

Other Heavy Metals

Monitoring the full range of toxic metals also yields interesting data on symptom improvement in relationship to their elimination. Say, for example, the fecal metals test showed that lead had been reduced to normal levels and mercury levels remained high. If some mercury related symptoms improved it would indicate that there was also a direct correlation between those symptoms and lowered lead levels— even though they were initially attributed to mercury poisoning.

Some consider zinc, copper, chromium, iron, and manganese to be heavy metals. While they can be toxic in higher amounts, they're biologically necessary for normal health and function. Thus, the levels that would be toxic are much, much greater than those of heavy metals that have no biological value to the body.

Comparing Results

To effectively monitor the program objectively your health professional will compare the results of the fecal metals test you take before beginning the program to tests taken at various intervals throughout the program.

To maximize the benefits of monitoring I suggest completing a Subjective Symptoms Evaluation each time you take a fecal metals test. If you take the test prior to having your amalgam fillings removed and then take it after they have been replaced it could show higher levels coming out of your body. This could mean that because your body no longer has to deal with with so much mercury entering it, it can increase the amount of stored mercury it removes. But this too will vary from person to person.

Over time, the objective fecal test may show diminishing levels of mercury while the subjective test shows no correlating change in symptoms. Although mercury is indeed being eliminated, this differential indicates that it may take the body additional time to heal the damage that mercury has caused.

This is especially true of symptoms related to the brain and central nervous system. As you continue subjective monitoring, you'll find that it has an increasingly direct relationship to objective monitoring. Over time you'll see a growing connection between declining mercury levels and symptom improvement. So please don't get discouraged if symptom improvement takes longer than you'd hoped for.

Any dysfunction of the liver/feces detoxification pathway could skew the results of the fecal metals test. This would include liver disease and constipation.

Monitoring Subjective Symptoms

The Subjective Symptom Evaluation is an example of what some in the “scientific” community commonly call “anecdotal evidence”. This means that the patient is the one making the evaluation and determining the results. A subjective evaluation is not directly related to being “objectively” tested. Nor is it connected to being told that what you are experiencing is all in your mind—it's solely based on how you actually feel. When you fill out the Subjective Symptom Chart, stay true to your experience because you will always be the best judge of your “subjective” symptoms.

The speed and the degree of symptom improvement are largely determined by the extent of your toxicity and the effectiveness of the detoxification program. Each situation is unique and sometimes one part of the body detoxifies more rapidly than another. Thus, while some symptoms could be relieved or eliminated in a short period of time, others especially those related to the central nervous system, could take longer to show improvement.

How the body actually goes about removing mercury is still not well known. Some believe that mercury must be removed in layers, like peeling an onion, and improvement in related symptoms depends on the amount of mercury removed from each layer. The good news is that if it is properly supported, the body is very effective at removing mercury. Your subjective evaluation has nothing to do with how the body removes it, but will provide valuable information

to you and your supporting health professional about how your symptoms have improved because mercury was eliminated. Monitoring your improvement will also give you additional motivation and there's nothing like positive results to spur you on!

Depending on how long you stay on the program, you could complete a total of five, or more, Subjective Symptom Evaluations. Ideally, the first one should be done immediately before you begin the program. The others are done at the end of the 3rd, 6th, 9th, and 12th month, using the same criteria each time. Your first Subjective Symptom Evaluation will become your reference point for comparing future evaluations.

All charts and forms can be found in **Appendix G**. You can print a copy of each chart and use it as your master to make copies from. Or, you can design your own chart from the sample chart below, making it as big as needed.

How to Use the Charts

In the first Subjective Symptom Chart **nothing** will be listed under the *Improvement* column because this is the beginning of the program and no improvement can be recorded. Keep the first chart as your Master Copy and use it to make copies for each succeeding evaluation.

For each succeeding subjective symptom evaluation you will list the improvements in symptoms you are experiencing on the day of the evaluation. Use your own words to describe your symptoms but rate the degree of improvement as: *none, little, moderate, significant, or eliminated*. You get to be both the patient and the doctor here, so you get to ask and answer your own questions. (**Appendix B** provides a list of symptoms and diseases most commonly associated with chronic mercury poisoning. This will give you a better idea of which of your symptoms could be related to mercury poisoning.)

Subjective Symptom Chart

Two charts are provided as examples. The first depicts the first subjective symptom evaluation. As you see, this example lists five symptoms and two diseases but the Improvement section left blank. The Improvement Evaluation is left blank on the first evaluation because you have not yet experienced any improvement. In the succeeding evaluations you would enter, 1st, 2nd, 3rd, etc., on the copies you make from your master.

Subjective Symptoms Chart: 1	
Date: 00/00/00	Improvement
Evaluation:	
<i>Symptoms</i>	<i>Improvement</i>
Headaches	
Lack of Concentration	
Muscle Aches	
Brain Fog (confusion and lack of focus)	
Depression	

<i>Disease(s)</i>	<i>Improvement</i>
Chronic Fatigue Syndrome	
Candidiasis	

The second Subjective Symptom chart shows a sample of the second evaluation at the end of the 3rd month. (Be sure and record the date and test period of each evaluation). On the second one you would enter the Improvement Evaluation as 1st.

Charting Subjective Symptoms: 2	
Date: 00/00/00	Improvement Evaluation:
1st	
<i>Symptoms*</i>	<i>Improvement</i>
Headaches	Moderate
Lack of Concentration	Significant
Muscle aches	Little
Brain Fog (confusion and lack of focus)	Significant
Depression	Little
<i>Disease(s)</i>	<i>Improvement</i>
Chronic Fatigue Syndrome	Moderate
Candidiasis	Little

Monitoring your symptoms at various stages in your program will be important for you personally but, if you are working with a health professional, be sure to provide a copy of each Subjective Symptom Chart to him/her. Comparing these results to those of the fecal metals test will help him or her evaluate your subjective and objective progress.

What if I Don't Do any Objective Testing?

I recommend taking the Subjective Symptom Evaluation at the time you begin the detoxification program, even if you never take any of the objective tests. It will still have a value in at least subjectively monitoring the improvement in your symptoms.

When to Do the Evaluation

I recommend doing the first Subjective Symptom Evaluation within a day of taking the fecal metals test (and other tests that you may take at the same time), if applicable. Whatever day you select, try to keep it consistent throughout the program. Although there's some flexibility, it's important to get the subjective data as close to the objective as possible. This helps you and your health professional to standardize the comparison.

If you are not doing any objective testing, you would do your first Subjective Symptom Evaluation within a day of starting the program.

Summary of Monitoring Protocol

The following table summarizes the monitoring protocol I recommend.

How to Monitor the Program	
<i>Period</i>	<i>Tests</i>
Prior to beginning the program	<p>First Fecal Test. This test provides a baseline for future monitoring. It's valuable whether or not you've been taking supplements prior to starting the program. However, I recommend taking it before adding any of the supplements in my program. Your health professional or dentist can have the laboratory send a fecal metals test kit directly to you.</p> <p>First Red Blood Cell (RBC) Elements Test. This test provide a baseline for monitoring your mineral levels. I recommend taking it before beginning the program and with each subsequent fecal metals test. Your health professional or dentist can arrange for the blood test.</p> <p>First Subjective Symptom Evaluation. This evaluation provides a baseline for monitoring your subjective symptoms that existed prior to having your fillings removed, or if already removed, prior to beginning the detoxification program.</p>
3rd Month	<p>Second Fecal Test. I suggest the second test be done at the end of three months of participating in the program. If you're taking DMSA, take the second fecal test on the day DMSA therapy ends for that particular week. This will be the first monitoring test after starting the program and will allow for comparison to the pre-program baseline data.</p> <p>Second Red Blood Cell (RBC) Elements Test. This test provides crucial information about how your mineral levels may have changed and what minerals need to be increased or reduced.</p> <p>Second Subjective Symptom Evaluation. Simply compare this evaluation to the first one and note any changes. This will be your first opportunity to compare your subjective symptoms to your initial baseline evaluation. Some symptom improvements may appear.</p>
6th Month	<p>Third Fecal Test. I recommend taking this test at the end of 6 months. If you're using DMSA, take the third fecal test on the day DMSA therapy ends. It will help your health professional objectively evaluate the effects of DMSA therapy. He can compare pre-program mercury levels to the 3rd and 6th month levels. Unless your health professional indicates otherwise, the pharmaceutical chelation therapy phase will end at this point. For the remainder of the program you'll only be taking the supplements I recommend in the program. The third fecal test provides a fresh baseline for the non-DMSA phase of the detoxification program, if applicable.</p> <p>Third Red Blood Cell (RBC) Elements Test. This test provides important information about how the mineral levels may have changed and which ones may need to be increased or reduced.</p> <p>Third Subjective Symptom Evaluation. Simply compare these results to your first and second subjective tests and note any changes. General body symptoms related to mercury poisoning should show improvement.</p>
9th Month	<p>Fourth Fecal Test. If your previous tests indicate you should continue the program I suggest taking this test at the end of the 9th month. It gives you data on</p>

How to Monitor the Program	
<i>Period</i>	<i>Tests</i>
	<p>the effectiveness of your program for that period and is the first fecal test taken without the use of a pharmaceutical chelator, if applicable.</p> <p>Fourth Red Blood Cell (RBC) Elements Test. If you undergo DMSA chelation, this will be the first mineral analysis after stopping DMSA. If you did use DMSA it will be critically important to monitor mineral levels at this stage. Your health professional can then determine what minerals may need to be increased or reduced.</p> <p>Fourth Subjective Symptom Evaluation. Simply compare these results to your previous subjective evaluations and note any changes. It is possible that you could be experiencing improvements in neurological symptoms, relative to the extent of your initial toxicity. If you've added brain food supplements you could also begin to see some improvement in symptoms at this time.</p>
12th Month	<p>Fifth Fecal Test. Depending on how mercury toxic you were when you began the program, your body could now be able to remove more mercury stored in the brain. Taking this test at the end of the first year should provide data about the relationship between improvements in neurological symptoms and current mercury levels.</p> <p>Fifth Red Blood Cell (RBC) Elements Test. It's important to evaluate mineral levels at this stage, and once again determine what minerals may need to be increased or reduced.</p> <p>Fifth Subjective Symptom Evaluation. Simply compare these results to your first subjective evaluation and note any changes. Some could expect to see additional improvements in CNS symptoms. If you have added brain food supplements even more improvements could begin to appear.</p>
Ongoing	<p>The above suggestions are just guidelines. Because the body burden and related symptoms of mercury toxicity will vary from person to person it is impossible to predict when specific improvements related to chronic mercury poisoning will actually take place.</p> <p>Those who were less mercury toxic and whose mercury related symptoms have steadily improved over the past 12 months would not have to continue with the fecal or blood tests. I do recommend continuing with the Subjective Symptom Evaluation; at least until no more improvement in symptoms is seen.</p> <p>Those who are more mercury toxic and exhibit more symptoms and health issues related to chronic mercury poisoning may want to continue testing, particularly if you are still showing high levels of fecal mercury.</p> <p>If you decide to continue the program beyond the first year, I recommend the same monitoring protocol be used.</p>

Testing Fees and Procedures

While the fees charged by testing laboratories for the same test will be relatively consistent, additional costs may be added by the physician or health professional. Depending on the type of test, these may include shipping charges, cost of prescription chelators, and fees charged by your health professional, or qualified dentist, for ordering and evaluating test results. There's no

standardized fee for these add-on services. Some health professionals charge more than others for their evaluation. However, they should provide you with the total cost of each test on request.

Be sure to follow all test instructions carefully. If you're uncertain about any of the instructions, check with your health professional before proceeding. I realize that for some objective testing may not be financially feasible.

Thus, I once again want to make clear that while testing does have a value it will not change the outcome of the program. Testing will not cause the body to remove mercury faster or have any effect on the extent of symptom improvement. However, if you are going to take a pharmaceutical chelator I strongly recommend that you do have your mineral levels regularly monitored with the Red Blood Cells (RBC) elements test.

Chapter 9

Understanding Pharmaceutical Chelators

If you know you are not going to be taking a pharmaceutical chelator you can skip this chapter. If you decide later on to use one you can always come back and review this chapter. If you aren't sure and would like to understand more about them before discussing this subject with your health professional, please continue.

If you'd like to explore using a pharmaceutical chelator it's important for you to find a health professional or dentist well-versed in their use as it will be a decision you will have to make with his or her support. A number of pharmaceutical chelators are available for removing mercury from the body and all require a prescription. If the choice is made to include chelation therapy (the term most commonly used for this type of procedure) I believe it will be very useful for you to understand the basic concept of pharmaceutical chelation.

Health professionals have differing opinions about whether pharmaceutical chelators are needed and which one is best. I believe that the right pharmaceutical chelator can be beneficial for some people. In fact, it's the only substance I discuss the possible use of that isn't natural. This chapter will cover the following topics:

1. Kinds of pharmaceutical chelators
2. Comparing DMSA and DMPS
3. Kidney testing
4. Urine challenge test
5. DMSA tolerance testing
6. DMSA detoxification protocol

While I don't think that everyone needs to use a pharmaceutical chelator, I feel it should be considered for anyone who has been exposed to higher amounts of mercury over a long period of time, and/or who exhibits more serious mercury-related symptoms and diseases.

Unfortunately, not every health professional is aware of the role and value pharmaceutical chelators can have in helping to eliminate mercury. In addition, many who recommend them may not fully understand the differences between them, or how to properly use them. The information in this chapter will allow you to ask the right questions, be able to evaluate the answers, and assist you in making a much more informed decision.

Kinds of Chelators

The most commonly used pharmaceutical mercury chelators are DMSA (Meso-2, 3-Dimercaptosuccinic Acid), DMPS (Dimercapto-propane sulfonate), and EDTA (Ethylenediaminetetra-acetic acid). Each has its supporters and detractors. For a number of reasons which I will explain, I recommend DMSA over DMPS, EDTA, or any other pharmaceutical chelator.

Known by the brand names Chemet or Succimer, DMSA is a sulfur-containing, water-soluble, orally-administered chelator of metals. Relatively non-toxic, it's an FDA-approved prescription drug that's been in use for over 50 years and it's the preferred drug for chelating lead out of children. Because of its safety record, oral administration and effectiveness, many

scientists and health professionals consider it to be the pharmaceutical chelator of choice for mercury detoxification.

Comparing Pharmaceutical Chelators

The table below offers a condensed comparison of DMSA to DMPS. I didn't include EDTA, BAL, D-Penicillamine, or any other older mercury chelators, because of problems with administering, severe side-effects, and general ineffectiveness. For example, we know that although EDTA is very effective at chelating lead, it really isn't an effective chelator of mercury.

I've made every effort to keep the material in this chapter layperson-friendly, meaning you don't have to be a health professional to make sense of it. In the column titled **Preference** I evaluate which of the two I consider offers the greatest comparative advantage for each specific subject listed under the **Category** column. These evaluations are based on my research and only reflect my opinion and others may disagree with my evaluation.

At this time DMPS is most commonly administered by injection, either transdermally (TD) (injected under the skin), or intravenously (IV) (into a vein). Because of this, the following comparison is between oral DMSA and TD or IV administered DMPS. IV DMPS will usually express the greatest number of side-effects. (I will briefly discuss the use of oral DMPS at the end of the comparative chart.)

Comparing DMSA and DMPS			
<i>Category</i>	<i>DMSA</i>	<i>DMPS</i>	<i>Preference</i>
Accessibility	FDA-approved for use with children (considered safe) Listed in the Physician's Desk Reference (PDR) Readily available at pharmacies, including compounding pharmacies, throughout the U.S. Known by the trade names Chemet and Succimer, but also available as a generic drug	Considered an investigational drug in the U.S. Has not received final (3 rd stage) approval by the FDA Not listed in the Physician's Desk Reference (PDR) Available only from compounding pharmacies	DMSA
Administration	Taken orally Can be self-administered	Usually administered intravenously (IV) of TD Both must be done under the supervision of a health professional	DMSA
Allergic reactions	Because DMSA's base is succinic acid, it's easier for the body to metabolize than DMPS Less likely than DMPS to be allergenic	Combination of propane and sulfonic acid, both of which are more difficult for the body to metabolize Acts much like a sulfa drug—allergic and even autoimmune reactions are a concern	DMSA
Blood Brain Barrier	There is no conclusive proof that DMSA can cross the blood brain barrier (BBB) in humans. It has been shown that it can cross the BBB in mice and remove mercury from the brain	To date, no study has shown DMPS to cross the BBB in mice or in humans	DMSA
Challenge Testing for	Can be used for urine mercury challenge test in a dose of 100-200	An unpublished study by Doctors Data shows a single intravenous dose of DMPS	Tie

Comparing DMSA and DMPS

<i>Category</i>	<i>DMSA</i>	<i>DMPS</i>	<i>Preference</i>
Mercury	mg/day, 3x/day, for three days. This would allow the use of DMSA as both the urine challenge chelator and the long-term mercury chelator	to be much more effective than a single oral dose of DMSA for challenge testing Allergic reactions still an issue even in one IV or TD dose	
Cost	Significantly less expensive per dose Taken up to 3x per day, 3 days per week A monthly supply of DMSA costs more than one monthly injection of DMPS. However, it doesn't require a visit to the health professional's office, eliminating physician's fee, patient's travel time, and inconvenience. Since it can also be used for the urine challenge test, its total monthly cost will be less than DMPS	Significantly more expensive per dose Normally injected once per month Each injection involves a visit to the health professional's office and related fees must be included	DMSA
Effectiveness	During the same 30-day time period, DMSA can be used on many more days and can eliminate more total mercury per month than DMPS Can capture mercury throughout the general body, and possibly the brain DMSA is the most effective at removing mercury from the blood, liver, brain, spleen, lungs, large intestine, skeletal muscle, and bone	DMPS is more effective than DMSA at removing mercury from the kidneys	DMSA
Elimination Pathway	Requires healthy and functioning kidneys and a relatively healthy liver Ninety-percent of DMSA is eliminated via the kidneys and urine, but some is eliminated via the liver pathway	Requires healthy and functioning kidneys and a relatively healthy liver Ninety-percent of DMPS is eliminated via the kidneys and urine, but some is eliminated via the liver pathway DMPS puts more stress on the kidneys	DMSA
Intestinal Support	There is some indication that unabsorbed DMSA can chelate mercury in the intestine, thus decreasing the amount of mercury left to be re-absorbed	Because DMPS is normally injected, it can't help prevent mercury re-absorption from the intestine	DMSA
Safety/Side-effects	Has fewer and less severe side-effects than other pharmaceutical chelators of mercury Could dramatically reduce the incidence of side-effects from other detoxification supplements that act as mobilizers of mercury, such as cilantro DMSA is the least toxic of all dithiol compounds, such as DMPS	DMPS is 3 times more toxic than DMSA, based on LD50. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. For example, if the LD50 of one drug was 1 mg and another was 500 mg, the drug with an LD50 of 1 mg would be the most toxic, by far.	DMSA
Other	Sustains blood, tissue, and intestinal	Achieves maximum efficiency at 2-3 hours	DMSA

Comparing DMSA and DMPS			
<i>Category</i>	<i>DMSA</i>	<i>DMPS</i>	<i>Preference</i>
	levels during the days administered Achieves peak effect in first 8 hours Captures mobilized mercury before it re-attaches elsewhere DMSA's sulfhydryl groups make it a very effective chelator of mercury DMSA also chelates arsenic, lead, and cadmium Doesn't give mercury up to other sites, but removes it from the body	after IV injection; decreases to baseline levels after 8 hours TD-DMPS reaches peak effect in 6-8 hours Between injections, there is no DMPS available to chelate mercury	

Oral DMPS

DMPS has been used in Europe for many years. Traditionally, IV-DMPS was given to treat acute mercury poisoning and oral DMPS was used to treat chronic mercury poisoning. For reasons I have yet to discover, IV-DMPS or TD-DMPS is the most commonly used form of DMPS in the United States. I believe that this accounts for the higher incidence of unwanted side-effects associated with the IV and TD routes of admission. It could also account for its bad publicity.

My research has shown that oral DMPS may be slightly more effective at removing mercury than oral DMSA but that the potential side-effects are still higher (apples for apples) with DMPS and would still be a concern when choosing between the two oral forms. In addition, because it is only available from compounding pharmacies and not commonly used, DMPS tablets are less available and considerably more expensive than DMSA. My personal opinion, when comparing the two when taken orally is that I would still choose DMSA, but I wouldn't be against a thoughtfully designed oral DMPS program.

There are those who have had successful results with TD, or IV-DMPS and I don't mean to insinuate that these forms of DMPS cannot be effectively used. My position is not just based on which one is the most effective mercury chelator, but primarily on which would be the safest and result in the fewest side-effects.

If there are medical reasons why you can't use DMSA you may be a candidate for oral DMPS. In that case I strongly recommend that you discuss every aspect of its use with a qualified health professional, particularly the possibility of an allergic reaction. If your health professional believes that DMPS, when compared to DMSA in all the above categories, is superior to DMSA, be sure you feel completely comfortable with his, or her, explanation if you decide to use DMPS.

When using **any** pharmaceutical chelator, the approach of **starting low and going slow** is critically important.

Kidney Testing

Everyone who will be adding a pharmaceutical chelator to their detoxification program should be tested to determine the health of the kidneys. The kidneys have a high affinity for mercury and this can put them at greater risk when an aggressive approach is used with pharmaceutical chelators. If the kidneys aren't functioning properly it will decrease their ability to not only remove mercury, but all toxic substances.

While most people will be able to effectively eliminate toxic metals attached to a pharmaceutical chelator, there is no way of knowing for sure unless you are tested. Your health care professional will be aware of the need for this test but if it isn't discussed I suggest you ask about it. The one I suggest is the creatinine clearance test but your health professional knows your health situation and may not feel this test is necessary or recommend another one.

Urine Challenge Test Chelators

An effective way to evaluate mercury toxicity quantitatively is to determine the amount of mercury excreted in the urine after a challenge dose of a pharmaceutical chelator. The two most commonly used pharmaceutical chelators for a urine challenge test are DMSA and DMPS.

When using DMSA, a baseline 24-hour urine is collected before the challenge, then again on day three of a three-day dosing of 200 mg three times a day. If your health professional feels this test should be done I first suggest that the rationale for it be fully explained to you. Secondly, I recommend that DMSA be used because of its safety and because it is the chelator of choice in my program. This means you can use DMSA for all phases of the program and the results will be compared apples for apples. (See the explanation of the urine challenge test in [Appendix D.](#))

DMSA Protocols

Regardless of your health status, if you feel DMSA would be a positive addition to the detoxification protocol, you will need to enlist the support of a health professional or qualified dentist. To date, there isn't an established consensus regarding the most effective way to use DMSA, including its use in tolerance testing, a urine challenge test, and in a detoxification program. Most practitioners suggest 10-20 mg of DMSA per kg of body weight in determining the dosage for DMSA. As you will see, my recommendations are on the low end of what is normally recommended. I made this decision based on extensive research, but I defer to a qualified health professional to determine the specific need for and dosage for your individual situation.

DMSA Tolerance Testing Protocol

You can tolerance test whenever the decision is made to add DMSA to the program. If you still have mercury amalgam fillings I suggest starting on the day after they have all been removed (or as close to that date as possible). This assumes that there's no obvious medical reason not to take DMSA.

I purposely start tolerance testing at a lower dosage than many programs that use DMSA. I recommend one dose of 50-100 mg in the morning, and one similar dose in the evening. You will follow that up with 100 mg twice a day, morning and evening, for the next two days. This dosage is high enough to determine if you're allergic to DMSA, but low enough, in most cases, to prevent any dose-related side-effects. Whatever dose you and your health professional decide, either 50 or 100 mg will work for tolerance testing and will give you a base level to work from.

For some people DMSA may cause itching skin, light rash, or slight gastrointestinal disturbances such as gas, diarrhea, or bloating, and a strong sulfur odor may be present when urinating. If any of these, or other reactions occur, always reduce the dosage until they disappear. If the unwelcome side-effects do not disappear at the lowest dosage, discontinue use altogether and inform your health professional.

Don't take DMSA if you have kidney problems and never use it without professional supervision.
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Because your supporting health professional has direct knowledge of your overall health he or she may recommend a different protocol or dosage of DMSA, both for tolerance testing and for its use in the program. I don't want to interfere with their recommendations but I do suggest that the reasoning behind the changes is explained to your complete satisfaction. The following table displays my DMSA tolerance testing protocol:

Tolerance Testing DMSA						
<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
AM, 50-100 mg PM, 50-100 mg	100 mg/2xday Morning Evening	100 mg/2xday Morning Evening	Off	Off	Off	Off

During tolerance testing, or at any time while taking DMSA, if any symptoms appear that didn't exist prior to taking it, write them down. This will be of great value to your health professional in diagnosing their possible cause.

Dosage Rationale

I feel it's important to explain the rationale behind why my DMSA dosage is lower, and my program runs longer, than that recommended by other mercury detoxification programs.

I start low because I don't think it's a good idea for too much mercury to be moving around your body until the health and function of the immune system has improved. Starting low also gives your body time to adjust to DMSA and the other supplements you will be taking. This may not be true for you, but in most cases the overall health of the mercury toxic person is the most fragile at the beginning of the program, when the body has accumulated the most mercury. Adding additional, and possibly unnecessary, stress at this point may not be in your best interest.

Unless the situation is acute and your health professional feels drastic action is needed, my philosophy regarding DMSA is the same as with the supplements I recommend; start low and go slow. I'd rather see a slightly slower recovery time than put you through discouraging, and avoidable, side-effects. In other words, I'd rather see positive signs appear first.

DMSA Detoxification Protocol

If tolerance testing doesn't result in any side-effects you can proceed with your DMSA program. Unless your health professional recommends otherwise, you'll take DMSA for a total of 24 weeks, including the week of tolerance testing. This six-month period is divided into three cycles. The first cycle lasts one month, the second lasts two months, and the third lasts three months.

Each month, you will take DMSA for three successive weeks. During the fourth week of each month, you won't take DMSA, but will continue with the program supplements as indicated on the Supplement Schedule Charts. The DMSA protocol is included in the Supplement Schedule Chart whether you add DMSA to it or not.

During the weeks you will be taking DMSA, I only recommend taking it for the first three days of each week. Thus, each week there will be three days of taking DMSA and four days of not taking it. This on/off protocol is generally accepted as the best way to use most oral pharmaceutical chelators because the body needs a break so that you can replenish the

biologically necessary minerals that are removed by all pharmaceutical chelators. The greater the DMSA dosage, the more mercury it will remove—but it will also remove more minerals. A break from DMSA also gives the kidneys a rest.

If you do take DMSA, the Supplement Schedule Chart lists the days when DMSA should be taken, along with which supplements should and should not be taken with it. The following tables will clarify my DMSA protocol.

Always take DMSA between meals, or at least 1/2 hour before eating.

Cycle 1: First Month

After the first week of tolerance testing, you'll stay on the 100 mg, 2x/day dose of DMSA for the next two weeks. No DMSA will be taken on the 4th week.

For monitoring purposes, including mineral analysis, I strongly recommend that a fecal metals test, red blood cell, and Subjective Symptom Evaluation be done prior to starting the program and DMSA therapy. These tests are explained in **Chapter 8**.

First Cycle: Weeks 1 to 4

DMSA Week 1 (Tolerance Testing)						
<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
50-100 mg/2x/day Morning Evening	50-100 mg/2x/day Morning Evening	100 mg/2x/day Morning Evening	Off	Off	Off	Off

DMSA Week 2						
<i>Day 8</i>	<i>Day 9</i>	<i>Day 10</i>	<i>Day 11</i>	<i>Day 12</i>	<i>Day 13</i>	<i>Day 14</i>
100 mg/2x/day Morning Evening	100 mg/2x/day Morning Evening	100 mg/2x/day Morning Evening	Off	Off	Off	Off

DMSA Week 3**						
<i>Day 15</i>	<i>Day 16</i>	<i>Day 17</i>	<i>Day 18</i>	<i>Day 19</i>	<i>Day 20</i>	<i>Day 21</i>
100 mg/3x/day Morning Evening	100 mg/3x/day Morning Evening	100 mg/3x/day Morning Evening	Off	Off	Off	Off

**Increase to 100 mg, 3x/day.

DMSA Cycle 1/Week 4
Discontinue DMSA for one week—continue with scheduled supplements

Second Cycle: Weeks 5 to 12

Unless your health professional increased or decreased your dose during Cycle 1, I recommend staying at 100 mg 3x/per day for Cycle 2: weeks 5 to 12.

Weeks 5 to 8

DMSA Weeks 5-7						
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
100 mg/3x/day	100 mg/3x/day	100 mg/3x/day	Off	Off	Off	Off
Morning	Morning	Morning				
Mid-day	Mid-day	Mid-day				
Evening	Evening	Evening				

DMSA Week 8
Discontinue DMSA for one week—continue with supplement schedule

Weeks 9 to 12

DMSA Weeks 9-11						
Day 1	Day 2	Day 3	Day 4*	Day 5	Day 6	Day 7
100 mg/3x/day	100 mg/3x/day	100 mg/3x/day	Off	Off	Off	Off
Morning	Morning	Morning	Testing			
Mid-day	Mid-day	Mid-day				
Evening	Evening	Evening				

*The second fecal metals test, red blood cell, and Subjective Symptom Evaluation will be done on day four of week 11.

DMSA Week 12
Discontinue DMSA for one week—continue with supplement schedule

End of Second Cycle

At the end of three months you and your health professional will have sufficient information from your objective and subjective tests to make a decision whether to increase your dose of DMSA. By this time, the overall functioning of your immune system should have improved and most participants will be able to handle an increase at this stage.

While it is impossible predict the amount of mercury that DMSA has removed at this stage, you can be confident that there is less in your body than when you started taking it. You can be confident that while you are taking DMSA, the body is also removing as much mercury as possible.

Thus, the end of Cycle 2 is the second stage at which the DMSA part of the program can be monitored and customized to fit your unique situation. This is an ideal time to do another fecal metals test, red blood cell, and Subjective Symptom Evaluation.

Another factor that must be taken into consideration is that not all of the ingested DMSA will be assimilated into the body. It is estimated that only 20% of the DMSA you ingest is actually absorbed. There is some evidence that the unbound intestinal DMSA will be available to chelate

mercury in the intestine and carry it out of the body with the fecal matter, helping to prevent re-absorption. This adds additional support for sustaining intestinal health. It may also be taken in by the intestinal cells, providing them with some protection against mercury being reabsorbed.

Because DMSA could be preventing mercury from being reabsorbed, more mercury could be passing out via the feces, and the fecal metals test could show higher levels of mercury than expected. This is good news. As the amount of mercury leaving the body decreases over time testing should show lower levels.

Third Cycle: Weeks 13 to 24

As important as the objective tests may be at this stage, I believe a subjective evaluation of your symptoms is even more significant. For those whose health has not been severely compromised and have added DMSA to my program, three to six months should be sufficient time for the general body burden of mercury to be substantially reduced. Thus, the general body symptoms that are directly related to chronic mercury poisoning will show the greatest improvement in the shortest period of time.

But because of the difficulty in removing mercury from the brain, improvement in related symptoms will be slower to appear. As the general body burden of mercury diminishes and immune function improves, an ever increasing number of the body's natural mercury chelators will be available to deal with brain mercury.

At this stage, I recommend that the dosage of DMSA be **decreased** to 100 mg, two times per day, during weeks 13 to 24. There are three reasons why I recommend this at this time.

The first is that, unlike the body, DMSA does not discriminate when it comes to removing minerals. It will remove biologically necessary minerals, such as copper and zinc, as well as mercury and other toxic heavy metals. Over time this could result in a depletion of necessary minerals, would be counter-productive, particularly at a time when the body is also healing from the effects of mercury and will increasingly need an adequate supply of essential minerals.

The second reason is that, in most cases, by week 13 a significant portion of mercury found in the general body will have been removed by DMSA and the body's natural mercury chelators. As one of the goals of my program is to stress the use of natural supplements to support the body's ability to remove mercury naturally I feel this is a good point in the DMSA cycle to reduce its dosage. Supporting the body's efforts to naturally remove mercury should always be emphasized.

The third reason is that as helpful as DMSA can be to a mercury detoxification program, the body still sees it as a foreign substance and does its best to try and remove it. Thus, while DMSA is trying to remove mercury and other substances, the body is trying to detoxify DMSA. This in itself is stressful to the body and decreasing it at this stage will begin to alleviate that stress.

But remember, every situation is different and this is a very individualized treatment protocol. For those who are more mercury toxic, the health professional (based on the results of week 11's fecal metals test, Red Blood Cell, and other tests), may feel the dosage should actually be increased.

Weeks 13 to 16

DMSA Weeks 13 – 15						
<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
100 mg/2x/day	100 mg/2x/day	100 mg/2x/day	Off	Off	Off	Off
Morning	Morning	Morning				
Evening	Evening	Evening				

DMSA Week 16
Discontinue DMSA for one week—continue with supplement schedule

Weeks 17 to 20

DMSA Weeks 17 – 19						
<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
100 mg/2x/day	100 mg/2x/day	100 mg/2x/day	Off	Off	Off	Off
Morning	Morning	Morning				
Evening	Evening	Evening				

DMSA Week 20
Discontinue DMSA for one week—continue with supplement schedule

Weeks 21 to 24

DMSA Weeks 21 – 22						
<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
100 mg/2x/day	100 mg/2x/day	100 mg/2x/day	Off	Off	Off	Off
Morning	Morning	Morning				
Evening	Evening	Evening				

DMSA Week 23						
<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i> ^{**}	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
100 mg/2x/day	100 mg/2x/day	100 mg/2x/day	Off	Off	Off	Off
Morning	Morning	Morning	Testing			
Evening	Evening	Evening				

** The third fecal metals test, red blood cell, and Subjective Symptom Evaluation will be done on day four of week 23.

DMSA Week 24

End of DMSA therapy—continue with supplement schedule, as indicated

I suggest stopping DMSA at the end of Week 24, unless the results of monitoring indicate that additional therapy would be beneficial. In that case, I recommend waiting at least one month before initiating the second round of DMSA therapy. Again, these are only suggestions and I encourage you to follow the advice of your health professional.

Chapter 10

Oral Health, Overall Health, & Longevity

I'm confident that you are now well aware of the harmful effects that mercury vapor from amalgam fillings can have on your overall health. But a number of other oral health conditions can also contribute to many ailments and diseases and can be formidable obstacles to achieving optimal health. The most important of these are:

Periodontal (gum) disease Infected root canals Infected tooth extraction sites (cavitations) Other diseases of the oral cavity Non-compatible dental materials

Dental disease can no longer be thought of as a minor problem of the gums and teeth. The fact is, unless you know for certain that you're free of all of the above oral health problems, one or more of them could contribute to, or make worse, any existing health problem. How severely these oral diseases and conditions will impact your overall health depends on a number of factors. The most important of these are:

- **How many are present at the same time**
- **Location**
- **Type**
- **Extent**
- **Duration**

There is no doubt that an oral infection will weaken the immune system and jeopardize the successful outcome of all attempts to successfully treat any medical problem and can minimize the effectiveness of a mercury detoxification program.

For example, gum disease can:

Increase the risk of heart attack by as much as 25%; Increase the risk of stroke by a factor of 10; Increase the severity of diabetes; Contribute to low preterm birth weights; Contribute to respiratory disease; Contribute to osteoporosis; Interfere with proper digestion; Severely stress the immune system; and Dramatically lower resistance to other infections.

The Relationship of Oral Health to Mercury Detoxification

There is a direct relationship between a healthy mouth and a successful mercury detoxification program. By decreasing the effectiveness of the immune system, the above oral infections can interfere with the body's ability to remove harmful metals and other toxins. In addition, some of the symptoms directly related to oral disease can mimic those of chronic mercury poisoning. Thus, you could be successfully eliminating mercury and still exhibit symptoms that imitate those of chronic mercury poisoning; but are actually being caused by an oral infection, or infections.

You can be certain that unless you identify, treat, and eliminate all of these oral health issues you may not get the results from your detoxification program that you'd hoped for. This doesn't mean that you need to wait to begin your detoxification program until you have eliminated all of your oral health problems. On the contrary, the reverse is also true and mercury can interfere with the body's ability to deal with these oral health conditions, such as making gum disease more difficult to treat.

Ideally, the most effective way to deal with both the oral health issues and chronic mercury poisoning, is to treat them simultaneously. So please don't postpone starting your detoxification program while you take the necessary steps to deal with gum disease or the other oral health problems listed. But know that if any existing oral disease or condition goes untreated it can seriously undermine the benefits of your mercury detoxification program.

Some Suggestions

As important as these oral conditions are to your overall health, and to the success of your mercury detoxification program, any detailed discussion of them isn't appropriate here. However, I have two suggestions for you.

- Order and read my booklet, *The Mouth—Body Connection: The Relationship of Oral to Overall Health*, from my website at www.dentalwellness4u.com. This booklet will be available September 1, 2006 as an eBooklet and shortly thereafter in a printed version. Its purpose is to educate you about these oral health issues, explain the role they play in your overall health, and advise you what you can do about eliminating them.
- Schedule an appointment with a dentist, preferably a mercury free one as he or she will be much more aware of these issues. You will need to have a thorough oral examination to identify any potential problems and initiate the necessary treatment to eliminate the problem, or problems. (This is even more important if you do not see a dentist on a regular basis as that puts you in the higher risk category for having one or more of these oral problems.)
- If you are diagnosed with gum disease I recommend reading *Tooth Fitness*, which will guide you through every step of the prevention process needed to eliminate this disease. it too is available from my website.

Finding a Dentist

If your present dentist is not mercury free, you may have some difficulty in getting him or her to fully appreciate the relationship of gum disease, amalgam fillings, failed root canals, cavitations, and the biocompatibility of dental materials, to your overall health. The best suggestion I can give you is to make every effort to find a mercury free dentist to evaluate you

for these conditions. You can access the world's largest listing of mercury free dentists by going to my website, www.dentalwellness4u.com/freeservices/find_dentists.html.

The Cost of Replacing Amalgam Fillings

Composite fillings generally cost about 25% to 100% more than the cost of an amalgam filling. This additional cost is justified because the composite material is more expensive, it is more technique sensitive, and will generally take longer to place. In addition, making the dental office mercury safe involves the use of expensive equipment.

For some people, safely removing and replacing amalgam fillings with a safer filling can be financially challenging. I strongly believe that if you have any symptoms and diseases related to chronic mercury poisoning that you should make every effort to fund the removal of amalgam fillings. Even if you only can afford to remove one at a time, you will be better off having one less filling releasing mercury than waiting until you can afford to have them all removed. Ask your mercury free dentist which filling/fillings would be best to remove first. Usually it will be the one that he or she determines to be releasing the greatest amount of mercury vapor.

It may be that replacing some of the amalgams will require crowns. Crowns are much more expensive than composites and my suggestion is to first remove all of the amalgams that can be replaced by composites. Then you can have the crowns done as you can afford it.

I offer the following suggestions about paying for dental treatment:

- Talk to your dentist about financing. More and more dental offices are offering to finance dental treatment and some even offer 0 % interest financing.
- Borrow the money from friends or family.
- Get a loan from a bank or lending institution.
- Use a credit card.

If you don't have any mercury related symptoms, or few, and are having amalgams removed to prevent future health issues due to chronic mercury poisoning, your health can probably afford to have them spaced out and removed one or two at a time—as you can cope with financially.

But regardless of how long it takes you should make every effort to have them removed and replaced as soon as you can. Remember, doing so isn't just about the health of your teeth or gums. In the long run, the cost of dealing with health problems amalgam fillings can contribute to will be much more expensive.

Even if it will take some time to fund their safe removal and replacement, you should begin and diligently follow the detoxification program. Doing so will at least allow your body to more effectively deal with your continued exposure to mercury and reduce the amount being stored.

Chapter 11

A Message from Dr. Tom

I've covered a lot of ground and you should be commended for taking the time to read this material and participate in a mercury detoxification program. After all, knowledge is power, and you've acquired a great deal of it.

My role has been to present accurate information in a way that's easy to understand but you are the one who plays the most important role in this process. Without information you will never have a real choice, and without a real choice, you will continue to be a victim.

No one can wave a magic wand over you to make the mercury in your body disappear. You can't wish it away and it won't do you any good to spend a lot of time and energy blaming anyone. You have to commit to the program and stay involved with it if it is to work. The key to its success will be how well you comply with the program. You will also need to fully understand that improvements won't happen overnight and so you will also have to be patient and persevere.

You are making an important health decision and I don't believe that you should leave it to anyone else to make for you. Taking responsibility for your oral health and overall health is an important and positive step on the road to optimal physical, emotional, and psychological health. I can assure you that your body will be overjoyed at the support you are providing it.

I applaud your efforts and wish you the very, very best.

In health,

Tom

PS

I'd very much like to hear your comments about the book and the program and how it has benefited you. Feedback is tremendously important to any health and healing program and your input can help make it even more successful for others. If you're willing to share your information with me, please go to my Website at www.dentalwellness4u.com/contact.html. I am also available for phone consultations and can be reached at 1-877-363-1428.

Appendix A

A Short-Cut to Detoxification

I want to go on record as saying I don't recommend the short-cut approach to detoxification because everything in this book is here for a reason. Although the short-cut will provide you with the minimal information you need to participate, other important information could "slip through the cracks". While the short-cut program is better than not participating at all, I'm always concerned that a lack of understanding regarding the detoxification process could lead to frustration and a decline in motivation; leading to a less than satisfactory outcome.

But if you who wish to avoid reading one more word than you have to, but still hope to get mercury out of your body and improve your overall health and well being, the following chart will act as a Short-Cut Guide to my Mercury Detoxification Program. This is the minimal amount of information you will need to understand the program and you will still need to take the supplements and follow the schedule. So don't expect to short-cut the short-cut and get away with it.

Mercury Detoxification Made Simple	
<i>Step</i>	<i>Action</i>
One	Read through Chapter 7, <i>The Program Guide</i> , page 82. This is the only Chapter you absolutely need to read completely . It takes you through the program step-by-step and refers you to important information in other parts of the book.
Two	Go to Chapter 4, <i>What You Need to Know about Vitamins</i> , page 39, and read the sections on multiple vitamins and minerals. This will guide you in selecting the recommended amount of each of these supplements. The dosages of the other supplements recommended for the Program are listed in the <i>Supplement Schedule Charts</i> in Appendix G, page 137.
Three	Review the table: <i>Supplement Comparison and Special Instruction Chart</i> , Chapter 5, page 63. This gives you a condensed list of the supplements and dosages I recommend for the Program. If you're already taking supplements it will allow you to compare yours to mine.
Four	Read Chapter 3, <i>Additional Support for Your Program</i> , page 33. This provides important information on the actions you can take to enhance the success of your detoxification program.
Five	Read Chapter 10, <i>Oral and Overall Health</i> . If you have any other unresolved oral health issues they can jeopardize the success of your detoxification program. This Chapter tells you what they are and how to learn more about them. A must if you don't see a dentist regularly.
Six	Read <i>Monitoring Your Program</i> , Chapter 8, page 96. This gives you the option of monitoring your subjective symptoms and will be beneficial whether or not you enlist the support of a health professional.
Seven	If you're going to enlist support from a health professional to use DMSA as a pharmaceutical chelator and monitor the program with a fecal metals test, see Chapter 8, <i>Monitoring Your Program</i> , page 97 and Chapter 9, <i>Understanding Pharmaceutical Chelators</i> , page 105. If that isn't the path you will take, you can skip those chapters.

Mercury Detoxification Made Simple	
<i>Step</i>	<i>Action</i>
Eight	All the Appendices are considered optional reading but you may find something of interest, especially Appendix I: <i>Intravenous (IV) Therapy</i> , page 144, if your health professional has recommended infusion therapy. Also, Appendix E: <i>Testing for Mercury Allergy</i> , page 131, may have value if you suffer from allergies.
Nine	Review the sections on <i>Supplement Schedule Charts</i> in Chapter 7, <i>The Program Guide</i> , page 91. <i>Brain Food Supplements</i> in Chapter 6, page 76, and <i>Monitoring Subjective Symptoms</i> in Chapter 8, <i>Monitoring Your Program</i> , page 99. These will explain the value of, and how to use, the charts I provide. Printable Supplement Schedule Charts can be found in Appendix G, page 137.

Appendix B

Mercury-related Symptoms and Diseases

Symptoms of Chronic Mercury Poisoning

Following is a list of symptoms most commonly associated with chronic mercury poisoning. Because of the numerous indirect effects of mercury on overall health, I believe this list could be much longer.

Neurological/Mental	Head Area
Slurred Speech	Dizziness
Memory Loss, short and long term	Ringing in Ears
Learning Disorders	Faintness
Lack of Concentration	Frequent Headaches
Fine Tremor	
Dizziness	
Numbness	

Emotions	Oral/Throat
Mood Swings	Chronic Coughing
Fits of Anger	Gingivitis/Bleeding Gums
Fear and Nervousness	Bone loss
Anxiety	Metallic Taste
Depression	Inflammation of the Gums
Aggressiveness	Bad Breath (halitosis)
Confusion	Ulcers of Oral Cavity
Lethargy	Mouth Inflammation
Shyness	Burning Sensation
Manic depression	Leukoplakia (white patches on cheeks and gums)
Hallucinations	Sore Throats

Nasal	Lungs
Inflammation of the Nose	Asthma/Bronchitis
Sinusitis	Shortness of Breath
Excessive Mucus Formation	Chest Congestion
Stuffy Nose	Shallow Respiration

Heart	Energy Levels
Rapid Heart Rate	Chronic Tiredness
Irregular Heartbeat	Apathy
Pain in Chest	Restlessness
Anemia	

Muscles & Joints	Digestive System
Muscle Aches	Loss of Appetite
Joint Aches	Diarrhea/constipation
Stiffness	Weight Loss
Muscle Weakness	Nausea/vomiting
Muscle Cramping	Cramping
	Colitis

Other Symptoms of Chronic Mercury Poisoning	
Hair Loss	Swollen Glands
Water Retention (edema)	Cold, Clammy Skin
Vision Problems (tunnel vision)	Allergies
Skin Problems	Hypoxia
Recurrent Illnesses	Insomnia
Loss of Sense of Smell	Anorexia
Excessive Blushing	Kidney Problems
Genital Discharge	Excessive Perspiration

The number and severity of symptoms of chronic mercury poisoning will be determined by your state of health (especially the status of your immune system), how much mercury you've been exposed to over time, and the amount still in your body.

Diseases Related to Mercury Poisoning

Mercury exposure has been directly linked to the following diseases. Because the indirect effects of mercury are also very harmful, such as the damage it does to the immune system, this list could also be much longer.

Diseases Related to Chronic Mercury Poisoning	
Acrodynia	Emphysema
Alzheimer's Disease	Fibromyalgia
Anterior Lateral Sclerosis (ALS)	Hormonal Dysfunction
Asthma	Intestinal Dysfunction
Arthritis	Immune System Disorders

Diseases Related to Chronic Mercury Poisoning

Autism	Kidney Disease
Candidiasis	Learning Disorders
Cardiovascular Disease	Liver Disorders
Crohn's Disease	Lupus
Chronic Fatigue Syndrome	Metabolic Encephalopathy
Depression	Multiple Sclerosis (MS)
Developmental Defects	Reproductive Disorders
Diabetes	Parkinson's Disease
Eczema	Senile Dementia
	Thyroid Disease

Appendix C

Improvements in Symptoms Related to Chronic Mercury Poisoning

What is Possible

For a mercury detoxification program to be successful it involves two distinct stages. The first is to have mercury amalgam fillings safely removed and replaced. The second is participating in a mercury detoxification program. Studies have indicated that there can be significant improvements in related symptoms from both. I am including the results of studies that give examples of each.

There is no guarantee that any of the symptoms you have that are related to chronic mercury poisoning will improve to the extent shown in the studies below. However, I do think it is important to know that these symptoms can and do improve once the source of the poison has been removed and with participation in a mercury detoxification program.

Symptom Improvement Following Amalgam Removal

A number of studies have been done demonstrating an improvement in symptoms commonly related to chronic mercury poisoning after amalgam fillings have been removed. I've selected a compilation of studies organized by Sam Ziff of Bio-Probe, Inc, involving a total of 1,569 participants, to demonstrate it.

Before and after the removal of their mercury amalgam (silver) fillings, those participating were evaluated for the symptoms listed in the chart below. The only constant in the study was that they all had their amalgam fillings removed. Common sense dictates that the improvement was directly related to the removal of amalgam fillings.

While all of the columns provide useful information I believe that the most interesting one is the **Percentage Improved or Cured**. This column indicates the percentage of those who showed the greatest improvement of the related symptom.

Symptom Improvement after Mercury-Amalgam Filling Removal				
Percentage with Symptom	Symptom	Percentage Improved or Cured	Number Improved or Cured	Total Number Of Symptoms
6	Lack of energy	97	88	91
17	Metallic taste	95	247	260
8	Gum problems	94	121	129
5	Anxiety	93	80	96
22	Depression	91	315	347

Symptom Improvement after Mercury-Amalgam Filling Removal				
Percentage with Symptom	Symptom	Percentage Improved or Cured	Number Improved or Cured	Total Number Of Symptoms
8	Irritability	90	119	132
14	Allergy	89	68	81
22	Dizziness	88	301	343
6	Bloating	88	70	88
5	Chest pains	87	69	79
34	Headaches	87	460	531
10	Irregular heart beat	87	139	159
45	Fatigue	86	603	705
12	Ulcers (oral cavity)	86	162	189
10	Nervousness	83	131	158
8	Muscle tremor	83	104	126
15	Intestinal problems	83	192	231
8	Numbness anywhere	82	97	118
17	Lack of concentration	80	216	270
12	Insomnia	78	146	187
7	Multiple sclerosis	76	86	113
17	Memory loss	73	193	265
29	Vision problems	63	289	462

Symptom Improvement after Mercury-Amalgam Filling Removal				
Percentage with Symptom	Symptom	Percentage Improved or Cured	Number Improved or Cured	Total Number Of Symptoms
6	Blood pressure problems	54	53	99

In general, I believe that symptom improvement is related to the length of time the individual was mercury toxic, the amount of damage mercury had done to the general body and central nervous system (CNS), the participant's overall health at the time of removal, and the health of the immune system.

Improvements after Amalgam Removal and a Mercury Detoxification Program

In a study that was evaluated by Linda Jones, *Dental Amalgam and Health Experience: Exploring Health Outcomes and Issues for People Medically Diagnosed with Mercury Poisoning*, 35 people were evaluated who had previously been told that their symptoms, including cognitive deficits and mood swings, were psychosomatic (imaginary). The most commonly shared conditions were chronic fatigue syndrome (CFS), candidiasis, allergies, migraines, and chronic or recurring flu symptoms, all of which are related to chronic mercury poisoning. Of the 32 who had their amalgams removed, 29 reported enduring health gains. **Of the 30 who had completed both amalgam removal and a detoxification program, 21 experienced a full return to health and the activities of daily life.**

Another study by Lindh and associates, looked at improvements in symptoms and the quality of life of 776 people who had their mercury amalgam fillings removed and participated in a detoxification program. The subjects suffered from an array of symptoms, including those related to general, neurological, psychiatric, and oral health. More than 70% of those who completed both removal of fillings and participated in a mercury detoxification program, reported a substantial recovery and increased quality of life.

Again, no guarantees can be given regarding the outcome of your detoxification program but I believe these studies are cause for optimism.

Appendix D

Commonly Used Tests for Mercury

Urine Mercury Testing

As a diagnostic tool for mercury, the urine mercury challenge test by itself is limited. For example, it provides no information about:

1. The source of the mercury;
2. What parts of the general body the collected mercury came from;
3. How much mercury is stored and where it's located;
4. The health problems the accumulated mercury is causing;
5. Brain and CNS mercury; and
6. The mercury the body removes naturally via the feces.

Two types of urine tests are commonly used. One is the unprovoked mercury urine test, which doesn't use a mercury chelator and only reflects the amount of mercury the body naturally removes via the urine. The other is the urine mercury challenge (provoked) test, which *does* use a pharmaceutical chelator. DMPS is the most commonly used pharmaceutical chelator for this test, but DMSA can also be used.

Unprovoked Urine Mercury Test

It's impossible for the unprovoked urine mercury test to accurately reflect the total amount of mercury the body naturally removes every day. The reason is that less than 10% of the mercury the body removes on its own leaves through the kidneys and urine, while about 90% leaves through the feces. Thus, an unprovoked urine mercury test can easily indicate a relatively "safe" reading when the body burden of mercury could actually be quite high. For example, if the total amount of mercury the body eliminates in one day is 10 mcg, the unprovoked urine test would show it had removed less than 1 mcg. And unless you've had the function of your kidneys tested, there is no way you could determine if what is coming out is what they would remove if healthy.

While there is a reference level, this test will never give an accurate indication of the total amount of mercury being removed or still stored in the body. Used alone it could lead you to believe that you aren't that mercury toxic, when you actually are. I don't recommend this test for evaluating your body burden of mercury, for determining how much mercury is being removed from your body, or for making a decision about whether to participate in a mercury detoxification program.

Urine Mercury Challenge Test

When this test is done correctly (especially for those who still have amalgam fillings), the results generally show a far greater amount of mercury being removed from the kidneys than the unprovoked urine test does. This is because DMPS (or DMSA) seeks out mercury much more aggressively than the body's natural chelators and removes this mercury via the kidneys/urine pathway. Generally the challenge test will show significantly higher amounts of mercury being removed by this test than the un-challenged test.

However, the challenge test can also be misinterpreted, especially if there's any problem with the kidneys and they're not able to release mercury effectively. When used as a one-time

challenge test and evaluated just for mercury levels, its results can also be deceptive. Ideally, this test should be done more than once, with the first one being the reference test. You can then compare the results of future tests with the first one.

Mercury isn't the only metal that DMPS will find and remove during the challenge period. DMPS has a greater affinity for certain other metals and, according to Dauderer, chelates metals in the following order:

DMPS Chelating Order	
1. Zinc	6. Lead
2. Tin	7. Iron
3. Copper	8. Cadmium
4. Arsenic	9. Nickel
5. Mercury	10. Chromium

For example, if there is an abundance of zinc, tin, copper, or arsenic in the body, DMPS will chelate these first, leaving proportionately less DMPS available for mercury removal. Therefore, a single urine mercury challenge test could indicate comparatively low levels of mercury and not accurately reflect the real mercury levels in the body.

In addition, DMPS does not cross the blood brain barrier and can't be used to determine brain mercury levels. Even if a provoked urine test shows mercury levels in the normal range, there can still be a significant amount of mercury in the CNS. If I were using the Urine Challenge test and the results showed a normal level of mercury I'd always confirm it with a Fecal Metals Test.

Blood Mercury Test

This test detects mercury levels in blood. While it can indicate exposure to all three types of mercury—elemental, inorganic, and organic (methyl)—a number of limitations prevent this test from determining your body's burden of mercury, or indicating its effectiveness in removing it.

1. If you take this test 72 hours or less after eating fish containing methyl mercury the test will show a high level of mercury in the blood. The results could be completely different if you took the blood test *before* eating the fish, or a week after.
2. Because mercury vapor will pass immediately through the lungs into the blood stream, any exposure to elemental mercury vapor from amalgam fillings, or other sources of mercury vapor, within 90 minutes before blood sampling can dramatically affect the results of this test.
3. Chewing gum, grinding your teeth, eating, drinking hot liquids, or otherwise stimulating your amalgam fillings shortly before the blood is drawn will result in a high, and most likely dangerous, level of blood mercury.

But if you didn't stimulate your fillings for 2 hours before the test, it could show low—even "safe"—levels of blood mercury.

If, for some other reason, your health professional wants to know your blood mercury level, this is a good test. For example, it is a good way to monitor an acute exposure to mercury. But it can only tell you if mercury was in your blood at the time it was drawn. It reveals nothing about whether mercury is present in other parts of your body, how much is there, what effects it may be

having on your health, your total body burden of mercury, or the mercury stored in your CNS.

Thus, I believe that the blood test can be extremely misleading unless a fecal metals test is also done and the results compared. Mercury levels in the blood could indicate relatively “safe” levels while the fecal metals test could indicate high, harmful levels.

Hair Analysis

If this test is used to evaluate the body’s burden of mercury it can also be misleading. It is believed that anywhere from 70% to nearly 95% of the mercury found in a hair sample comes from organic, or methyl mercury. The main source of methyl mercury is seafood. If you have high mercury hair levels the majority of it could be from seafood and not from the elemental mercury released by amalgam fillings.

Much of the mercury released from amalgam fillings is taken up by various cells, enzymes, proteins, nerves, organs, and tissues of the general body. A significant amount also ends up in the cells and tissues of the brain. Thus, the hair analysis can’t accurately determine the body burden of mercury because only a portion of the mercury you are exposed to will ever find its way into hair follicles.

Hair analysis only records whether mercury was available to the hair follicle during the time that portion of the hair was growing. It tells us nothing about exposure to mercury before or after that period, nor does it provide any indication about how much mercury is present in the brain. Unless this test is accompanied by a fecal metals test, I don’t believe it yields much usable information about the particular type of mercury that enters, is in, or leaves the body.

However, there are those who believe that the hair analysis is a relatively good test for evaluating the body’s mineral levels, and interpreted correctly, it can be helpful to the program.

By its inherent nature, both mercury and pharmaceutical chelators can cause mineral depletion, making it important to monitor mineral levels throughout the program. This is especially true if you have many mercury related symptoms and your program includes the use of a pharmaceutical chelator. This test also must be ordered by a health professional, or dentist. It should be noted that for a test to be useful it must be accurately interpreted and you should always ask your health professional if he or she is versed in any test you will be taking.

The hair analysis test is most helpful if taken prior to beginning the program and when each subsequent fecal metals test is taken.

Red Blood Cell (RBC) Elements Test

I believe that the best test for evaluating mineral levels is the red blood cell (RBC) analysis. According to Dr. David Quiq, of Doctor's Data, Inc., the RBC analysis is an invaluable diagnostic method for assessing an insufficiency, or an excess, of elements that have important functions within blood cells or on blood cell membranes.

RBC element analysis is an important test to do prior to and intermittently throughout the course of detoxification, especially if a pharmaceutical chelating agent is used. Chronic mercury poisoning can disrupt mineral balance and so can the use of a pharmaceutical chelator. And as mineral imbalance can generate many unwanted side-effects this test should be considered, particularly if your health professional suspects some of your symptoms may be related to a deficiency or excess of minerals.

(Doctor’s Data is the testing laboratory I recommend for most of the tests I discuss in the book. Information about the lab can be found in the **Appendix J**, *Testing Laboratories*.)

Appendix E

Testing for Mercury Allergy

Melisa Test[®]

The MELISA[®] test (Memory Lymphocyte Immuno Stimulation Assay) measures hypersensitivity to numerous metals, including mercury. At the time of this publication this was the only scientifically proven test of its kind. MELISA[®] measures reactivity to toxic metals by placing a series of metals into contact with the white blood cells of the person to be tested and then monitoring the reaction.

Test results will enable you and your health professional to confirm or eliminate the possibility that you're allergic to mercury or other heavy metals. This test would be useful if you have, or had mercury amalgam fillings and also have allergies that haven't been diagnosed—or haven't adequately responded to treatment. It's possible that you've not accumulated enough mercury in your body to manifest typical symptoms of chronic mercury poisoning but if you're allergic to mercury, even small amounts released from your fillings could trigger an allergic reaction, and its related symptoms.

Unless the MELISA[®] test is done you'll need to consider other indicators of mercury sensitivity, such as an unusual or dramatic response during or soon after the placement or removal of amalgam fillings. Another sensitivity indicator is an excess number of allergic reactions to a variety of substances, foods, chemicals, and environmental toxins, without being able to find the culprit. Mercury is known to increase the body's susceptibility to allergens and make existing ones worse.

If any of these conditions apply to you, it's crucial to investigate further. People who are sensitive to mercury not only suffer from the direct effects of mercury poisoning, but also from an allergic reaction to it. To avoid confusing a mercury allergy with an allergic reaction to chemicals, the environment, supplements, or foods, I recommend the MELISA[®] test.

You'll find information about ordering the MELISA[®] Test in **Appendix K: Resources** Section. A health professional will have to order this test for you.

Anyone with an actual or suspected allergy to mercury should proceed with the detoxification program slowly. Reduce the starting dosages of the supplements if necessary, at least until any allergic side-effects have been reduced or eliminated.

Appendix F

Autism

Something to Think About

We know that chronic mercury poisoning, from amalgam silver fillings, has a harmful direct and indirect affect on all aspects of our health. But I believe that chronic mercury poisoning plays an even greater role in autism and I'd be remiss if I didn't comment on it here. Even if you or your family have not been touched by this heartbreaking syndrome I know you will find it worth reading.

Autism

Entire books have been written, deservedly so, on this subject but I will just briefly focus on the role mercury, particularly from amalgam fillings, plays in this disturbing problem. I will expand on this in an upcoming book, and more detailed information about it will soon be available on my website.

I am writing this primarily for women who are planning to have children. My sincere hope is that it will stimulate those women to seriously consider having these toxic fillings safely removed prior to becoming pregnant. I also hope it will stimulate those who are more directly involved with, or have an interest, in autism, at any level, to look at the role mercury (from amalgam fillings) plays in the cause and severity of autism in a new way.

Cause of Autism

No one really knows what causes autism. As such, many potential causes and contributors cannot be ruled out and it could very well be that there are multiple factors involved. But it is a neurological disorder and a majority of the symptoms associated with autism are identical to those expressed by chronic mercury poisoning. I found the similarities extraordinarily revealing and I absolutely do not believe they are coincidental (to view these similarities, you can go to www.heart-disease-bypass-surgery.com/data/articles/44.htm). In fact, after reading this I'm sure you will agree that chronic mercury poisoning cannot be ruled out as either a major contributor to, or a distinct cause of, autism.

Supporting Evidence

To date, most of the available evidence seems to point towards genetics as a major factor in autism. This happens a lot in medicine when the ideology (cause) of a health problem is unknown. Others strongly feel that vaccinations play a big role. Actually, it's the organic mercury found in thimerosal, which makes up 50 % of the preservative in vaccines, that is thought to be the culprit. While I do believe that genetics, and the acute doses of mercury found in vaccinations are definitely a contributing factor to the cause and severity of autism, they fail to answer many of the key questions about its cause.

The incidence of autism has increased so dramatically that blaming genetics will not sufficiently address that theory. Vaccines containing thimerosal cannot explain it away either as there are those who suffer from autism who have never been vaccinated. There are also those who were given the full range of vaccinations and didn't develop autism. In addition, thimerosal is being phased out of vaccinations and yet the dramatic increase in autism continues.

I've no doubt that many factors, known and unknown, contribute to it, as every disease/syndrome undoubtedly have numerous implicating causes. But I have a more realistic

theory that will go much further toward solving the mystery around the cause of autism.

I'm convinced that mercury poisoning is the number one causative factor in autism. The only reason this hasn't been proven is that no scientific studies have gone back far enough to consider children's first exposure to mercury.

First Exposure: Where it all Begins

A child's first exposure to mercury from amalgam fillings* can occur at the moment of conception. Think of that and the implications it holds! At first glance it may sound like a crazy idea and easy to dismiss but it is absolutely true and cannot be discarded. If the mother has mercury amalgam silver fillings in her teeth the fetus will not only be exposed to mercury released from her fillings at the moment of its conception, but throughout the entire gestation period. It is being exposed to elemental mercury from dental fillings before it even has a tooth!

However, the bad news doesn't end there. If a mother has amalgam fillings while she nurses her baby it will also be exposed to mercury released from her fillings—for as long as the child is being nursed. In addition, most babies in modernized countries will receive 10 vaccinations by age 5. These 10 vaccinations will consist of 33 doses of the vaccines, beginning shortly after birth and continuing through early childhood. Each dose will consist of approximately 237 micrograms of mercury. But for tens of millions of babies, their first vaccination doesn't appear until he or she has already been exposed to mercury for 9 months!

It also isn't a stretch to see how devastating it would be to a nursing baby that was exposed to high amounts of mercury as a fetus, to then get such large doses of mercury in vaccinations. It could be possible that without the added effect of the vaccinations a child would not have developed autism. Such is the interconnectedness of this relationship involving early exposure to mercury, in all forms.

If you think about this for a moment, it isn't difficult to imagine the effect mercury can have on the neurological development of the child before it even gets its first dose of mercury from a vaccination! The most important aspects of neurological development take place during fetal development and it is during this period that the fetus is the most susceptible to mercury. There are those who believe that it only takes a small amount of mercury atoms to cause or contribute to a birth defect.

Certainly a child will be exposed to mercury from his or her own fillings, as early as 3 years of age, but by that time the main symptoms of autism have already appeared. I'm not saying that the mercury from their own fillings couldn't add to, or make the symptoms worse, but they alone wouldn't be the primary causative factor. The first symptoms of autism show up earlier than that.

*The fetus can also receive mercury from other sources that the mother is being exposed to, particularly mercury contaminated fish. But while those sources cannot be discounted, they are not the 24/7 exposure to mercury that comes from amalgam fillings.

Why Mercury is so Poisonous to the Fetus and Baby

First, it is vital to know that if the mother is exposed to organic or elemental mercury the fetus and baby will also be exposed to a high percentage of what the mother receives. Mercury easily passes from the mother, via the placenta, into the fetus. Mercury also passes into breast milk and enters the nursing baby through its mother's milk. Exposure to mercury at this stage of growth is very damaging to neurological development. But what makes it even worse, much worse, is that the fetus has not developed an effective blood brain barrier and its immune system is practically non-existent. In effect, the fetus has no defense against mercury exposure.

As you know, the fetus and the nursing baby are infinitely more susceptible to any toxin, let alone one of the most poisonous ones on the planet. Admittedly, there are many factors involved when it comes to determining how much mercury a fetus or baby will receive from the mother. I covered these in **Chapter 2**, but briefly they include:

Factors Determining Mercury Release
How many mercury amalgam fillings the mother has;
How large they are;
How the fillings are stimulated; and
How often they are stimulated.

Another important factor is whether or not the mother had mercury amalgam fillings removed or placed while she was pregnant or nursing. This is significant, because for people who have amalgam fillings, their greatest exposure to mercury occurs when those fillings are placed or removed.

What it Means!

Once we understand how fetal exposure to mercury can take place, we have no choice but to seriously consider the possibility that chronic mercury poisoning is the major risk factor in the dramatic increase in autism over the past 30 years. This makes sense, because it could very well explain:

- Why some children who haven't been vaccinated or haven't received the full series of vaccinations still develop autism;
- Why a child who was vaccinated with vaccines that didn't contain mercury became autistic; and
- The role of genetics in autism (a powerful mutagenic, mercury could easily contribute to autism).

Thus, there's good reason to believe that mercury directly and indirectly plays a major role in causing autism.

One also must consider that autism isn't the only problem that exposure to mercury is known to cause or contribute to, in babies and young children. Many learning disabilities have been attributed to mercury poisoning and the same consideration must be given to amalgam fillings as a cause, or contributor.

Yet, in spite of the evidence, diehard pro-amalgam fanatics continue to say that the amount of mercury released from amalgam fillings isn't great enough to be a health hazard. If you've read **Chapter 2**, you know this simply isn't true. The evidence is clear: chronic mercury poisoning can directly, or indirectly, be the cause or contributor to **an extraordinarily large** number of symptoms and diseases in adults. Nonetheless, there's still a debate over whether or not the mercury from **amalgam fillings** causes health problems for adults. But no sane scientist or health professional would EVER suggest that it's O.K. to knowingly subject a fetus, nursing baby, or young child to any amount of mercury—let alone significant amounts of it on a continuous basis.

Summing it Up

No amount of mercury is safe, for anyone—period! No one who understands how early a person can be exposed to mercury, and how very toxic it is to the fetus and nursing baby, **could ever think that mercury is not a major cause of autism**. Most people have not been made aware of amalgam fillings as being a source of this poison and this ignorance sadly puts the mother, fetus, and baby at great risk.

Thirty years ago, autism showed up in 1 of 10,000 births. Today, some estimates suggest it now appears in 1 out of 250 births. We know that mercury has been implicated in autism from vaccinations. We know that it **cannot be excluded** as a contributing cause of autism. Knowing that, under certain conditions, amalgam fillings may well be the source of significant mercury exposure at a critically important stage of neurological development should provide an objective person significant reason to ponder.

Neither I nor anyone else can tell you how much mercury you're receiving from your fillings. Nor can anyone know how much mercury enters the fetus, or how much short-and long-term damage it will do. But we **do** know one unalterable fact: no amount of mercury is safe for you or your child. Even if you have only a few amalgam fillings, is it worth the risk to unnecessarily expose your child to any amount of mercury? I personally don't think so, especially since that risk can so easily be eliminated.

Of course I can't speak for you, but if I were a mother with amalgam fillings and I was planning a family I would not be willing to take the risk of exposing my child to **any** amounts of mercury. And I certainly would not wait until someone came up with a scientific study that conclusively proved that mercury was one of the primary causes of autism.

Suggestions

This was just a brief overview of this critically important subject, but it is my hope that you are now more informed than before. I can assure you, it is a lot easier to remove these fillings and prevent the side-effects of chronic mercury poisoning than to have to treat related health problems later. This includes autism. If you are planning a family I can only offer you two suggestions. The first is to have your mercury amalgam fillings safely removed and replaced with a non-toxic material, as many days prior to conception as possible. The second is to participate in a mercury detoxification program as soon as possible.

There are those who don't believe you should detoxify from mercury if you are pregnant or nursing. There are many opinions as to why but as yet no consensus. I do believe that as long as you are no longer being exposed to mercury from your fillings or mercury contaminated fish, you will have dramatically decreased the risk of mercury poisoning to the fetus and nursing baby. Also, even though there still could very well be mercury stored in your body, once it has attached itself to a protein or enzyme, etc., it doesn't readily move around; again minimizing the risk to the child. But an overly aggressive detoxification program during pregnancy or nursing could cause some mercury to move around, possibly exposing the fetus or baby. But these are just educated guesses and no one knows with certainty if that is the case.

I believe the final decision is between you and your health professional. I would certainly

encourage the use of vitamins and nutritional supplements necessary to support a healthy life and protect you from the added stress on the system from a pregnancy.

But I would avoid mercury mobilizers, such as cilantro, and never use a pharmaceutical chelator during this period. However, I personally would not have a problem with any of the vitamin supplements recommended in my program that the body needs for health and either manufactures or must obtain from outside sources.

If You Have an Autistic Child

As you well know, if you have an autistic child there are no simple answers or suggestions. But I have included sources of information that could be of help to you in dealing with what you and your child are faced with. I have found the information from Dr. Amy Holmes to be very impressive and informative and I would highly recommend her, and her detoxification program, to anyone who is raising an autistic child. There are other sources as well and I'll let you be the judge of their value.

Resources

www.healing-arts.org/children/holmes.htm. Dr. Amy Holmes's website that brilliantly deals with chelating mercury from the autistic child. www.healing-arts.org/children/holmes.htm

www.tacanow.com. *Talk About Curing Autism* (TACA) provides the information and connection to improve the quality of life of people with autism in their families.

www.healing-arts.org/children/index.htm. Important information about alternative therapies for treating children with developmental delays and other neurometabolic conditions and disorders.

www.vaccinationnews.com/DailyNews/July2001/AutismUniqueMercPoison.htm. A great source of information about all aspects of autism by Sallie Bernard and others. One of the best sources on this subject that I've found.

http://www.drnicola.com/5901/14001.html?*session*id*key*=*session*id*val*. This website discusses the various test for autism.

<http://www.eas.asu.edu/~autism/DANConsensusReport.htm>. This site discusses the many treatment Options for Mercury/Metal Toxicity in Autism and Related Developmental Disabilities.

Of course there are more websites with information about autism than those I've listed above, but these are the ones I would begin with. They are not in any particular order of importance so please don't infer anything from the order in which I've placed them. I'd also like to suggest that you go to these sites sooner than later and print any information from them that you feel is important. Although these sites have been around for some time, websites do come and go and this will insure that you will have the information you want from them.

Appendix G

Helpful Charts

How to Access the Charts

I've created five schedule charts which are designed to support your mercury detoxification program. These charts are in a PDF format to ensure that they will print exactly as they are on the pages below. Printing is easy with PDF.

You will first need to:

- Go to the page you want to print.
- Go to **File** on the top row menu bar and choose **Print**.
- Check **Current Page** and click on **OK** to print.
- For printing more than one page, you can check **Pages From** and enter the page range you want to print. Click on **OK** to print.

You can print each chart separately or all 5 together by selecting all of them. Because of the formatting of the charts in the PDF file each chart will occupy a separate page and each page will print out, exactly as it looks on the page, on a 9 ½" x 11" sheet of paper.

You have the option of printing out one copy (or a number of them at the same time) of each chart you will use and keeping that as the Master Copy. From that copy you can use your copy machine to make copies as you need them for use during the program. I consider this to be the easiest way to do this because you won't have to open the eBook on your computer each time you want to print a new copy. But if you accidentally mark-up or lose your Master Copy you can access the eBook and print out a new one.

To review and print all of the charts scroll down to the next and succeeding pages.

Supplement Schedule Chart 4: Health Maintenance Program Master*

Name: _____

Week Of: _____

Supplement		# Taken	# Per Day	Mon			Tue			Wed			Thur			Fri			Sat			Sun					
				B	L	D	B	L	D	B	L	D	B	L	D	B	L	D	B	L	D	B	L	D			
With Meals	Legend																										
Alpha Lipoic Acid (100 mg)	tt	1	2																						X	X	X
Bioflavonoids (500 mg)		1	1																						X	X	X
Coenzyme Q-10 (60 mg)		1	1																						X	X	X
Digestive Enzymes	sdb	1	2																						X	X	X
Garlic (3000 mcg allicin)		1	2																						X	X	X
Lecithin (19 grains/1200 mg)		1	1																						X	X	X
Magnesium Citrate (500 mg)		1	1																						X	X	X
Milk Thistle (100 mg)	tt	1	2																						X	X	X
MSM (500 mg)	tt	1	1																						X	X	X
Multi Vitamin	sdb	1	2																						X	X	X
Multi Mineral *	sdb	2	3	X	X	X	X	X	X	X	X	X													X	X	X
NAC (500 mg)	tt	1	2																						X	X	X
Omega-3 Fatty Acid (1000 mg)		1	1																						X	X	X
Selenium (100 mcg)		1	2																						X	X	X
Vitamin C (1000 mg)		1	3																						X	X	X
Natural Cellular Defense (NCD) (with or between meals)	si/tt/sdb																								X	X	X
Between Meals: 1/2 Hour Before or 2 Hours After				Mon			Tue			Wed			Thur			Fri			Sat			Sun					
Amino Acid Complex	sdb	1	2																						X	X	X
Chlorella	tt/sdb																								X	X	X
Glutathione (100 mg)	Sdb/tt	1	3																						X	X	X
Probiotic (acidophilus or mixed probiotics)	bb/sdb/adl																								X	X	X
Psyllium	adl/sdb																										
Whey Protein	adl/sdb																								X	X	X
Notes: X—No supplements taken																											
Legend:		bb —before breakfast adl —as directed on label tt —tolerance testing si —special instruction op —optional dd —doctor directed sdb —see detoxification book																									

*You can increase the dosage or add new supplements as needed or desired.

Appendix H

Health Maintenance Program

Staying Healthy

Earlier in the book I spoke about the fact that my program can be modified to become a health maintenance program after it has served its purpose in helping your body remove stored mercury. While there is no exact way to determine when your body has removed most of the stored mercury there are two ways to get a good indication.

The first is to use the fecal metals test. If you have used this test for monitoring purposes you will be able to tell when the mercury levels show that the amount being removed has stabilized. Thus, if three successive tests, each at least 3 months apart, show the same level of mercury being released this is an indication that the program has stabilized. You can also compare each test to the reference levels of those who never had amalgam fillings and took the fecal metals test.

The second is to monitor symptom improvement. If you have conscientiously followed the program and you go 6 months without any observable improvement in the symptoms you listed when you began the program, it is an indication that there are other factors involved besides mercury.

This could indicate that any remaining symptoms are not directly related to chronic mercury poisoning and you should look for other causes and treatment. Such as a severe antioxidant deficiency, impaired liver function, or other problems that are related to detoxification. Or you had an extremely high body burden of mercury and it may take even longer to remove it. Or, some of the brain/CNS damage done by mercury is not reversible.

At this point, you have another option. You can consult with your health professional and discuss using DMSA. Because DMSA is more aggressive than the body's natural chelators it may be able to find and remove mercury that the body cannot do it on its own. I believe this is a reasonable option if you still have a number of symptoms that could be related to mercury toxicity.

However you do the evaluation, once the results of the program have stabilized this is the point at which you can modify the program to become a health maintenance one. I suggest this because you have maximized the results of the original detoxification program, and now want to make sure you continue to supply the body with the basic supplements it needs to sustain health and protect it from other toxins and poisons.

I have created a Health Maintenance Program Chart that shows how the original detoxification program is modified to do this. Thus, once you have shifted to the maintenance program you will know exactly what supplements to continue taking. A sample of this chart is found in **Appendix G.**

Appendix I

Intravenous (IV) Therapy

What is IV Therapy

The simple definition of intravenous (IV) infusion therapy is supplying the body with various substances directly into the bloodstream through a vein. If you're working with a health professional who is well-versed in all aspects of mercury detoxification he/she may recommend including infusions in your program.

What to use, how often to use it, and what to combine it with, will depend on your state of health, tolerance, and the type(s) of health issue(s) you're now dealing with. My approach to infusions is the same one I take with all other aspects of the program; start low and go slow. (Of course there may be situations where a rapid and intense IV therapy program may be necessary and that will be up to you and your physician to determine.)

While it's a general principle that the body won't have an allergic reaction to a substance that it produces or needs for normal functioning, your health professional should be concerned about dosages and the possibility of any adverse reactions to any other "unnatural" substance included with the infusion.

It has been said that you are what you "eat" but I believe that you are what you "assimilate"! Thus, there is no guarantee that everything you put into your mouth and swallow will be fully digested and assimilated. So if I recommend 100 mg of alpha lipoic acid, orally, some people may absorb all of it and others only a fraction of it.

How effective anyone is at digesting and assimilating the food and supplements ingested is very relative. For many people even partial digestion and assimilation is sufficient to provide the body with the basic needs. For others it is not, and therefore infusions may be their best option.

The advantage of infusing these critical nutrients is that it provides the body with a known quantity of them, without having to hope or guess what percentage will actually be assimilated. Infusions should be given only under the guidance of a qualified health professional and not everyone will be a candidate for this type of treatment. Infusions could be the administration of choice of certain supplements if a serious digestive, or other health problem prevents the use of oral supplementation.

Your health professional may also recommend an alternative infusion in addition to my recommendations. If so, make sure that he fully explains what he wants to add—and his logic behind using it—to your complete satisfaction. A qualified physician will always discuss this with you and design an infusion program for your individual needs.

Common IV Agents for Mercury Detoxification

Many supplements, drugs, and other nutrients are available for IV infusions, but the most common natural intravenous agents for mercury and other heavy metals detoxification are the following:

1. Ascorbic Acid (Vitamin C)
2. Alpha-lipoic Acid (ALA)
3. Glutathione (GSH)
4. N-Acetyl-Cysteine (NAC)

Some mercury detoxification programs discourage the use of infusions but they may be the mainstay of others. Some say to only use alpha lipoic acid (ALA) orally and others find infusions of ALA extremely beneficial. Because mercury dramatically depletes both ALA and glutathione (GSH), using infusions of these substances to build up their levels can be very effective.

Some health professions consider vitamin C infusions to be invaluable in protecting the body from mercury vapor during the removal of amalgam fillings. If you can't find a dentist who uses IV vitamin C infusions there's a simple, if less effective, alternative.

Obtain a packet of powdered vitamin C from a health food store and take it with you to the dental office. After you have been anesthetized, dissolve the powdered vitamin C in a glass of water and drink it 5-10 minutes before your mercury amalgam fillings are removed. (This works better on an empty stomach, because vitamin C is quickly absorbed from the intestine into the blood stream if there is no other food present in the stomach.) If the removal protocol is followed this will provide additional protection from the small amount of mercury vapor absorbed into the blood stream.

Because vitamin C may diminish the effect of the anesthetic in some people, I recommend taking it *after* the anesthetic has been injected.

Vitamin C has is believed to be more effective at removing mercury from blood than from cells or body tissue. When glutathione does its work it can be damaged in the process and it been shown that vitamin C can help restore damaged glutathione to normal function. It is also believed that the mercury that vitamin C binds to is excreted via the liver, which is the body's most natural pathway for mercury removal.

Infusions can provide valuable support to a detoxification program but the success of my program doesn't depend on them. Though infusions may speed up the process, the ultimate goal is to be mercury-free, regardless of how long it takes.

Some states restrict the types of infusions health professionals can provide to their patients. Consult with your health professional about the availability of infusions and if he feels they are warranted, and what he is able to provide.

Appendix J

Testing Laboratories

What Laboratory to Use

A number of excellent testing laboratories are available. I suggest the following for the tests I recommend. Your health professional may have his, or her, own preference.

Fecal Metals Test, Urine Mercury Challenge Test, Red Blood Cell (RBC) Elements Test

Doctor's Data Laboratory

3755 Illinois Ave.

St. Charles, IL 60174

800-323-2784

630-377-8139

Fax: 630-587-7860

Email: inquiries@doctorsdata.com

Website: www.doctorsdata.com

Your health professional or dentist may select another lab for some of the mercury tests, but as of this printing only Doctor's Data does the fecal metals test.

Dental Material Biocompatibility

Clifford Consulting and Research

2275 J Waynoka Road

Colorado Springs, CO 80915

Phone: 719-550-0008

Fax: 719-550-0009

Website: www.ccrilab.com

Walter Clifford has been a pioneer in this field for over 20 years and I consider his to be the best lab for biocompatibility testing. He has a very informative website for the layperson about the value and importance of testing for the biocompatibility of dental and other materials.

MELISA[®] Test

King James Medical Laboratory, Inc.

24700 Center Ridge Rd., Suite 113

Cleveland, OH 44145-5606

Phone: 800-437-1404

Fax: 440-835-2177

Website: www.kingjamesomegatech-lab.com

Additional information about the MELISA[®] test and other important information about mercury and its relationship to allergies can be found on its Website: www.melisa.org.

Appendix K

Resources

Websites

Because new information on mercury amalgam fillings and mercury detoxification is appearing constantly I will use my website to supply and update this information.

www.dentalwellness4u.com

I created this website to support your efforts to remove mercury from your teeth and body and improve your oral and overall health. While books are a wonderful source of information, they're not so easy to keep current. My website will serve as an extension of my books and is designed to give you the latest information on mercury amalgam filling removal and mercury detoxification.

New information about this subject is continuously being generated and I'm confident that you'll find my website to be your one stop source for the latest information about this important subject. On this site you get free access to the most complete worldwide directory of mercury free dentists and alternative health professionals, and access links to other valuable health sites.

You can also find the latest information on preventive dentistry, the relationship of oral to overall health, purchase *Tooth Fitness* and other informative books, as well as a variety of proven and safe preventive dental products. This site is a must for anyone who is committed to eliminating dental disease and restoring oral health and function.

www.surgeongeneral.gov/library/oralhealth

This summary of *The Surgeon General's Report on Oral Health: 2000* dramatically confirms the harmful effects of dental disease on general health.

Associations & Organizations

International Association of Mercury Free Dentists (IAMFD)

This association was founded by Tom McGuire, DDS to provide a prominent Internet presence to dentists who are committed to mercury safe dentistry. The IAMFD Internet Dental Listing Service has the largest database of mercury free dentists in the world and is designed to connect those seeking a mercury free dentist on the Internet with mercury free dentists. The listing includes extensive information about the member dentist that the layperson can use to learn more about him or her. If you are looking for a mercury free dentist go to: www.dentalwellness4u.com/freeservices/find_dentists.html.

If you are a mercury free dentist and want more information about the benefits of my listing service for you, your practice, and your patients, please go to: www.dentalwellness4u.com/iamfd.html.

The International Academy of Oral Medicine and Toxicology (IAOMT)

The IAOMT is a membership organization for dental, medical and research professionals who seek to promote medical-dental cooperation, mercury free dentistry, and elevated standards

of scientific biocompatibility in dental practice. This is a great organization and I have a great deal of respect for it and its members. I feel that any dentist who wants to develop a mercury safe dental office should consider joining this organization. I encourage you to visit their website, www.iaomt.org.

The International Academy of Biological Dentistry and Medicine (IABDM)

The International Academy of Biological Dentistry and Medicine is committed to the education of holistic dentists, physicians and practitioners in the art and science of biological dentistry. A biological practice is one that is socially, spiritually, ecologically and environmentally aware. Its practitioners honor the right to informed consent. They know the human body is more than a collection of parts that can be mechanically worked on in isolation. Seeing us as whole, unified beings, they respect each person's individual uniqueness and dignity. They are committed to providing the patient with the knowledge, tools and power to take charge of his or her health. For more information please go to its website at, www.iabdm.org.

The Institute of Nutritional Dentistry (IND)

The Institute of Nutritional Dentistry is a teaching organization that is unique in many ways. It offers seminars for dentists that are specifically designed to teach them how to practice **Whole Body and Healthy Dentistry**. The seminars provides dentists with access to the latest information on all aspects of nutritional dentistry, innovative technology, products, and biocompatible dental materials, to name a few. I personally know several of the Institute's founders and member dentists, and I have a great deal of respect for the Institute and its goals. For more information please go to its website at, www.naturaldentistry.org.

The Institute of Systemic Dentistry (ISD)

The Institute of Systemic Dentistry is the East coast version of the Institute of Nutritional Dentistry and is also a teaching organization that is unique in many ways. It offers seminars for dentists that are specifically designed to teach them how to practice **Whole Body and Healthy Dentistry**. The seminars provides dentists with access to the latest information on all aspects of nutritional dentistry, innovative technology, products, and biocompatible dental materials, to name a few. I personally know several of the Institute's founders and member dentists, and I have a great deal of respect for the Institute and its goals. For more information please go to its website at, www.naturaldentistry.org

Holistic Dental Association (HDA)

The Holistic Dental Association was formed by a group of dentists who wished to establish an organization that would provide a forum for the development and sharing of health promoting therapies. Today, more and more individuals are assuming greater responsibility for their own health. In this regard, the HDA has assumed a primary obligation to provide information and guidance to those persons seeking to participate in their own health care and to help in the continuing education of dental and health practitioners who have a desire to expand their knowledge and awareness.

This organization is concerned with the oral and overall health of their patients and I have a high regard for it and its members. For more information about this organization please go to, www.holisticdental.org.

Jigsaw Health Foundation

The Jigsaw Health Foundation is dedicated to helping needy individuals with chronic health conditions. The initial focus is on subsidizing the removal of dental mercury amalgams, a significant factor in chronic health conditions, and replacing them with non-toxic materials. If you, or you know of anyone, who cannot afford to have their mercury amalgam (silver) fillings

removed I suggest contacting this organization. More information on this exceptional and courageous foundation can be found by going to their website, www.jigsawhealth.org.

Mercury Policy Project

The Mercury Policy Project (MPP) works to promote policies to eliminate mercury uses, reduce the export and trafficking of mercury, and significantly reduce mercury exposures at the local, national, and international levels. They strive to work harmoniously with other groups and individuals who have similar goals and interests. For more information about this outstanding group please go to: www.mercurypolicy.org.

Dental Wellness Institute

Tom McGuire, DDS is one of the world's leading authorities on dental wellness and the founder of the Dental Wellness Institute. He has written a number of popular and informative books on preventive dentistry and mercury amalgam fillings for the layperson, including *Tooth Fitness: Your Guide to Healthy Teeth*, and *The Tooth Trip*. Dr. Tom offers office and phone consultations on prevention and impartial second opinions on dental treatment. For more information about Dr. McGuire, and to access his books, preventive dental products, and oral health care supplements please visit his website.

Dental Wellness Institute 321 S. Main St. # 503 Sebastopol, CA 95472 Phone: 1-877-363-1428 Web Site: www.dentalwellness4u.com E-mail: Email contact information can be found on the Website.

Recommended Books

Tooth Fitness: Your Guide to Healthy Teeth; Tom McGuire, DDS

Without a doubt, the most practical, up-to-date, and informative book ever written about preventive dentistry for the layperson. Written in plain English with a laugh-while-you-learn approach, this wonderfully illustrated book makes learning about dental health both painless and entertaining. This book is for everyone who wants to save their teeth, time, and money, and improve their overall health. You can order it from Dr. McGuire's website: www.dentalwellness4u.com or call 1-877-363-1428.

The NEW Detox Diet; Dr. Elson Haas

The Complete Guide for Lifelong Vitality with Recipes, Menus, & Detox Plans. This new book updates the original popular Detox Diet, and provides so much more to help you in this important process of detoxification.

Dr. Haas has written many excellent books on health and I highly recommend all of them. They include:

- Staying Healthy with the Seasons
- The False Fat Diet
- Staying Healthy with Nutrition
- The Staying Healthy Shopper's Guide

For more detailed information about Dr. Haas and his books I recommend you visit his website at: www.elsonhaas.com.

The GSH Phenomenon—Nature's Most Powerful Antioxidant and Healing Agent—Glutathione; Dr. Alan H Pressman. St. Martins' Press.

The best book I've found about one of the body's most important antioxidants. It is rich in information regarding the importance of antioxidants in healing diseases and ridding the body of toxic substances.

Dr. Janson's New Vitamin Revolution; Dr. Michael Janson, M.D.

This book takes the guesswork out of making the right choices for vitamin and mineral supplements. It not only presents the most up-to-date research on how the various vitamins, minerals, amino acids, herbs, and essential fatty acids work, but also describes the different supplements, and outlines specific dosages for a variety of circumstances, thereby giving you everything you need to know to design a personal health program.

A-Z Guide to Drug-Herb-Vitamin Interaction; Steve Austin, ND

This book shows you how to improve your health and avoid problems when using common medications and natural supplements together. If you're either taking, or thinking of taking, vitamins or herbs along with your prescription and non-prescription medications, then this could be a valuable book.

Vitamins for Dummies; Christopher Hobbs, LAc, Herbalist

This is a straight talking guide through the maze of complicated choices of vitamins and other nutritional supplements. It summarizes the most important facts you need to know to put the supplements to work for you right away for maximum effectiveness.

Juicing for Life; Cherie Calbom & Maureen Keene

Complete and extensively researched, this book deals with all the known nutritional, preventative, and immune-strengthening powers of fresh fruit and vegetable juices. It also provides dietary guidelines, detailing which foods to eat and which foods to avoid.

Herb Bible: Mindell

Herbs have been used to treat illnesses for 1000's of years. They can help you heal faster, live longer, and look better. The Herb Bible shows you how to choose and use herbs to relieve all kinds of symptoms, from headaches to PMS and more.

Digestive Wellness; Elizabeth Lipski

Takes you on a guided tour of the digestive system with emphasis on its friendly and not so friendly inhabitants.

GLOSSARY

acute poisoning. A large one-time dose of a poisonous substance that can be serious or fatal.

amalgam fillings. Typically, a mercury-amalgam filling is a mixture of mercury, silver, tin, copper, and zinc.

Mercury typically comprises about 50 % of the filling.

amalgamation. The mixing of differing metals.

ambient mercury. An extremely small amount of mercury that's naturally present in the environment.

American Academy of Pediatrics (AAP). An organization of 57,000 pediatricians dedicated to the health, safety and well-being of all infants, children, adolescents and young adults. Along with the Centers for Disease Control (CDC), the AAP has called for a temporary ban on the use of thimerosal in childhood vaccines because they contain mercury.

American Dental Association (ADA). Theoretically, the ADA is a "professional association of dentists committed to the public's oral health, ethics, science and professional advancement, and to leading a unified profession through initiatives in advocacy, education, research and the development of standards." Dentists who wanted to be free to use mercury amalgam fillings established the ADA in the mid 1800's.

anecdotal evidence. Evidence that is based on the subjective experiences of individuals, rather than on objective scientific evidence.

antigen. A substance such as pollen, which the body recognizes as foreign and thus provokes an immune response.

antioxidant. A substance that protects the body against free radicals and other harmful substances. Antioxidants are key ingredients of the immune and detoxification systems. Examples of the body's most important antioxidants are glutathione, alpha lipoic acid, beta-carotene (a vitamin A precursor), vitamin C, vitamin E, and selenium.

autism. A complex developmental disability that typically appears during the first three years of life. The result of a neurological disorder that affects the functioning of the brain, autism and its associated behaviors have been estimated to occur in as many as 2 to 6 in 1,000 individuals (Centers for Disease Control and Prevention 2001). Autism is four times more prevalent in boys than girls and knows no racial, ethnic, or social boundaries. Family income, lifestyle, and educational levels do not affect the chance of autism's occurrence. However, autism does have a direct connection with early exposure to mercury.

beneficial dose. The dose at which the benefits of a drug outweigh its side-effects. A vast majority of drugs prescribed are not recommended for pregnant or nursing mothers.

biocompatible dental materials. Dental materials that don't induce harmful side-effects, such as allergies. There are about 2,000 different dental materials in use today, and no one material is 100% safe for everyone.

blood brain barrier. A system of microscopic blood vessels only a single cell thick. These cells are so tightly packed together that they can block many substances in the systemic bloodstream from entering the brain, while allowing others to pass. Although far from perfect, it does shield the central nervous system from some poisons, viruses, and other toxins carried in the bloodstream, as well as from unpredictable fluctuations in normal blood chemistry. However, the blood brain barrier isn't an effective barrier against mercury, which can easily move into the brain.

blood mercury test. A test that accurately detects mercury levels found in the blood at the time the blood is drawn. This test can't accurately detect anything else about the amount of mercury entering or leaving the body or how much is stored.

bruxism. Commonly referred to as tooth grinding. Up to 90% of the U.S. population grinds their teeth at some time and to varying degrees. Bruxism can disrupt the oxide layer and appreciably heat an amalgam filling via friction. Such action can dramatically increase the amount of mercury vapor released.

cavitation. An area in the jawbone that has not properly healed after a tooth extraction. It can contain dead material, toxins, and bacteria. It can be caused by leaving infected tissue, tooth structure, or periodontal ligaments in the space created by a tooth extraction. A cavitation is also referred to as neuralgia-inducing cavitation osteonecrosis (NICO).

central nervous system (CNS). The portion of the human nervous system that consists of the brain and spinal cord, and their nerve endings. Collectively, they serve as the center that regulates the body's reaction to stimulus.

chelator. A substance that binds with various other substances, both harmful and necessary, and facilitates their removal from the body. Chelators can be natural, such as chlorella, or manufactured by drug companies, such as DMSA and DMPS. Antioxidants produced by the body can perform a similar function.

composite filling. A combination of glass fillers and plastic resin material. This mixture is light sensitive and cures/hardens when a special light is applied to the mixture. Composites require the removal of far less tooth

structure than amalgams, blend in with the color of the tooth, and they're easy to repair. In addition, the latest generation of composites makes a tooth much stronger than a tooth with a comparable amalgam filling.

Composite fillings can be used in place of mercury-amalgam and are much safer than mercury-amalgam fillings.

chronic poisoning. Poisoning that results from continual exposure to small amounts of a toxic substance over long periods of time. For example, the small amounts of mercury that amalgam fillings continually release results in chronic mercury poisoning. The symptoms and diseases related to chronic exposure to a poisonous substance may take years to materialize and can ultimately be life-threatening.

dental board. A state agency that regulates the dental profession in that state, and has the power to bestow and revoke licenses to practice dentistry. Many of the dentists who serve on a state dental board are also members of the American Dental Association, and/or their State dental association. Their decisions generally reflect ADA standards and positions. Some state dental boards have revoked the licenses of dentists who advised their patients that mercury-amalgam filings are a health hazard.

dental disease. This term includes both tooth decay and gum disease. Of the two, gum disease is the more serious and although it begins in the mouth, if left unchecked, it can contribute to more serious health problems and diseases that can negatively affect the quality of life and can shorten life expectancy.

dental materials biocompatibility test. One of the few relatively inexpensive tests that can help determine which dental materials the body may or may not be compatible with.

dentalwellness4u.com. The most comprehensive website for information about oral health conditions and their relationship to overall health, mercury amalgam fillings, and mercury detoxification. A source of related books, oral health care supplements, preventive dental products, and links to other valuable websites.

detoxification system. The liver, kidneys, and other organs responsible for eliminating toxic substances, such as mercury, from the body.

dissimilar metal restorations. Gold fillings and mercury-amalgam fillings are examples of dissimilar metal restorations.

elemental mercury. Mercury in its pure elemental form. This is the second most toxic form of mercury and is the type of mercury used in amalgam fillings. At room temperature, elemental mercury is a liquid and releases a poisonous vapor that is odorless and colorless. The amount of mercury vapor released from elemental mercury increases in direct proportion to the temperature.

Environmental Protection Agency (EPA). The federal agency charged with protecting human health and safeguarding the natural environment. In 1988, the EPA labeled the components of dental amalgam and scrap dental amalgam as a toxic waste material. Any dental office not complying with EPA's regulations could be fined for contaminating the dental office and the environment. Under this regulation, both must be placed in a hazardous waste container.

fat-soluble substances. Substances that dissolve in fat, such as elemental and organic mercury. Because the brain consists mostly of fat, elemental and organic mercury have a high affinity for brain cells, and they also readily cross the blood brain barrier (BBB).

fecal metals test. A test that detects mercury and other heavy metals in the feces. This is the most effective test for measuring how much mercury the body removes naturally with each bowel movement. It also allows a patient with amalgam fillings to compare his/her fecal mercury level with the average level of a control group without amalgam fillings.

free radicals. Molecules that contain at least one unpaired electron and are known to damage healthy cells. To complete their own electronic structure, free radicals steal electrons from intact molecules, which generate new free radicals which then react with other molecules. Free radicals are extremely toxic to the body and severely stress the immune system.

galvanic current. A battery-like current that flows between a high noble metal filling, such as gold, and mercury-amalgam fillings. This current can be active 24 hours a day. Galvanic current can cause the release of mercury vapor from amalgam fillings and result in amalgam particles imbedding in the gum tissue around the tooth that has the higher noble filling. Testing for mercury in the tissue around a gold filling has shown exceptionally high concentrations of mercury.

general body. For the purposes of this book, the general body includes every part of the body except the brain and central nervous system (CNS).

glutathione. The "king" of antioxidants, glutathione has primary responsibility for removing mercury from the body. If levels of glutathione are sufficient, the immune system can eliminate significant amounts of mercury. If glutathione levels decrease, the body is less and less able to do this.

hair analysis. A test that can be used to determine the amounts of mineral and trace elements, including mercury, in hair. When used to test for the presence of mercury, hair analysis records whether or not mercury was present during the time that portion of the hair sample was growing.

half-life. The time required for half the amount of a radio-active substance to decay. For example, the half-life of plutonium is about 24,000 years, so it takes about 14,000 years for one-half the amount to decay away. Although many refer to a half-life for mercury this is not the case. The body must physically remove the mercury that is stored, it will not decay away.

heavy metal. Stable and persistent environmental contaminant, such as mercury, lead, cadmium, and arsenic. Heavy metals tend to accumulate in soil, seawater, freshwater, and sediment, as well as in the human body. They are known to have adverse effects on both the environment and human health, and cannot be degraded or destroyed.

heavy metal synergism. The total effect of two or more metals on the body, which is greater than the sum of the effects of the individual metals. Mercury, arsenic, cadmium, and lead all exhibit synergism, especially when lead and mercury are present together.

immune system. One of the two systems that nature has evolved to protect humans against most harmful substances. The other is the detoxification system. The immune system's main function is to rid the body of bacteria, viruses, fungi, and poisonous and toxic substances.

industrial mercury exposure. Mercury that employees are exposed to while on the job. Various regulatory agencies have set varying standards for the level of mercury that it considers "safe" for employees to be exposed to. None of these agencies take the mercury exposure from amalgam fillings into account.

inorganic mercury. The least toxic form of mercury, inorganic mercury is chemically bonded in compounds with other elements, except carbon.

interceptive prevention. The act of taking whatever steps are necessary to prevent something harmful from happening or from doing any further damage.

International Academy of Oral Medicine and Toxicology (IAOMT). A membership organization for dental, medical and research professionals who seek to promote mercury free dentistry and raise the standards of health in dental practice. Since 1984, members of this group have examined, chronicled, and supported research into what can make dentistry more biologically acceptable. One of IAOMT's most recognized accomplishments is its development of a protocol for the safe removal of mercury-amalgam fillings.

lichen planus. Common chronic inflammatory disease of the oral mucous membranes that is sometimes painful. Lichen planus of the mucosa may lead to cancer of the mouth, particularly when there's chronic exposure to a toxic substance such as mercury.

MELISA[®] test. A test that measures the reactivity of white blood cells to a number of metals, including mercury. It works by placing a range of metals into contact with the white blood cells of the person to be tested and monitoring the reaction.

mercury. The most poisonous naturally-occurring, non-radioactive substance on earth, mercury is many times more toxic than arsenic, lead, or cadmium. There are three types of mercury: elemental, inorganic, and organic. While all forms of mercury are extremely toxic, organic mercury is the most toxic, followed by elemental and then by inorganic.

mercury amalgam fillings. Also known as silver fillings or amalgam fillings. A mercury-amalgam filling is a mixture of various metals, and is usually 48% to 60% mercury.

mercury detoxification. The process of removing mercury from the body.

mercury free dentist. A dentist who eliminates the placement of mercury-amalgam fillings from his or her practice. Mercury free dentists are more likely than pro-amalgam dentists to be aware of the latest developments in composite fillings. Mercury free dentists are also more likely to be familiar with the protocol for the safe removal of amalgam fillings.

mercury poisoning. Exposure to mercury that results in a variety of symptoms, such as tremors, anxiety, emotional instability, irritability, forgetfulness, insomnia, and regressive behavior.

mercury shock. A condition that's characterized by symptoms of a non-fatal acute dose of elemental mercury, and which accounts for many of the effects some people feel after placement of amalgam fillings. Symptoms can include headaches, coughing, sore gums, chest pain, difficulty breathing, nausea, and diarrhea. Depending on the exposure, it can also result in fine tremors in the fingers, toes, eyelids, lips and tongue; insomnia; irritability; personality changes; abnormal response to stimulation; and memory loss. Even non-specific symptoms, including exhaustion, visual problems, mental foginess, speech problems, and difficulty with balance while walking, are common.

mercury vapor analyzer. The instrument that's most often used to test for mercury vapor in the workplace or the human mouth.

methyl mercury. Organic mercury is often referred to as methyl mercury. Methyl mercury occurs when elemental mercury is converted to organic mercury by microorganisms. Excessive amounts of methyl mercury are found in certain types of fish. Experts at the Food and Drug Administration advise women of childbearing age to limit their consumption of shark, tuna, swordfish, king mackerel, and tilefish (which contain high levels of methyl mercury), to no more than once a month.

motor nerves. Passing out of the central nervous system, motor nerves carry impulses from the brain and spinal cord to organs and systems throughout the body, in both the head and trunk.

nephrotoxin. A toxic agent or substance, such as mercury, that inhibits, damages, or destroys the cells and/or tissues of the kidneys.

neurotoxin. A toxic agent or substance that inhibits, damages, or destroys the tissues of the nervous system, especially neurons, the conducting cells of the body's central nervous system.

night guard. A product that fits in the mouth and protects those who grind their teeth, from tooth-to-filling or filling-to-filling contact. Both soft night guards and hard night guards are available, and both can significantly reduce exposure to mercury vapor from amalgam fillings.

noble metal filling. A metal or alloy, such as gold, that is resistant to oxidation and corrosion.

occlusal contact. Contact between opposing surfaces of the teeth of the two jaws, or contact between the grinding or biting surfaces of the teeth.

organic mercury. The most toxic form of mercury. Organic mercury occurs in carbon-based compounds, and exemplifies the chemical meaning of *organic*, which is "compounds that are carbon-based".

periodontal disease. An infection of the gums, periodontal ligament, and bone that surround and support the teeth. Gum disease compounds the strain that the mercury from amalgam fillings places on the immune system, increasing the effect of mercury poisoning on one's health.

psychosomatic symptoms. Symptoms that some believe result from thought processes and emotions rather than physical causes. Officials at the American Dental Association contend that because the amount of mercury that amalgam fillings release is harmless, symptom improvement after filling removal indicates that the symptoms were psychosomatic.

removal protocol. The procedure a dentist follows when removing mercury-amalgam fillings. Unless a safe protocol is followed, the removal of mercury-amalgam fillings results in the second greatest exposure to mercury.

renal deficiency. Kidneys that are not fully functioning.

sensitizer. A substance that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the substance.

sensory nerves (neurons). Nerve cells that carry messages from the sense organs (touch, odor, taste, sound, and vision) to the central nervous system (CNS).

thimerosal. A mercury-based compound used in vaccinations as a preservative. Although it's being phased out, it's still found in vaccinations that are used today. Each vaccination preserved with thimerosal can contain as much as 237 micrograms of mercury. One mcg of mercury contains about 3,000,000,000,000,000, or 3 quadrillion, atoms of mercury.

toxic. Relating to or caused by a poison or toxin.

toxin. A poisonous substance that is usually very unstable and is notably toxic when introduced into the body.

urine mercury test. Two urine tests are commonly used to measure the ability of the kidneys to remove mercury. One is an unprovoked urine mercury test, which reflects the amount of mercury released in the urine naturally by the body. The other is the urine mercury challenge, or provoked mercury challenge, test. This test requires a pharmaceutical chelator that aggressively seeks out mercury throughout the body, with the exception of the CNS.

World Health Organization (WHO).

The directing and coordinating authority on international health issues. WHO "strives to bring the highest level of health to all peoples". To guarantee that employees are protected against both clinically significant symptoms and nonspecific symptoms, WHO set its limit for occupational exposure to mercury vapor at 25 mcg/m³ per 8-hour shift.

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Index

A

AAP (American Academy of Pediatrics), 151
acetyl-L-Carnitine (ALC), 78, 80, 86-87
acidophilus, 62
activated charcoal, 62, 66, 75
acetylcholine, 78, 80
acute mercury poisoning, 15, 24, 151
ADA. *See* American Dental Association
ALA. *See* alpha lipoic acid
ALC (acetyl-L-Carnitine), 78, 80, 86-87
alcohol
 and detoxification support, 34
 as diuretic, 35-36
allergies
 and detoxification program, 82, 131
 and homeopathic therapy, 62-63
 MELISA test, 131, 153
 and "Other Ingredients" lists, 42
 references, 160
 sulfur, 58
 and tolerance testing, 84
allicin, 61
alpha lipoic acid (ALA)
 as chelator, 15
 dosage recommendations, 63
 for intestinal support, 75
 IV therapy, 144, 145
 overview, 56
 references, 155
 tolerance testing, 84
ALS (amyotrophic lateral sclerosis), 157
Alzheimer's disease
 and docosahexonoic acid, 78
 and ginkgo biloba, 79
 and NADH, 79
 references, 157
amalgamation, 151
amalgam filling removal
 cost of, 118
 and detoxification program, 29, 88
 mercury-free dentists database, 11
 pre-removal detoxification, 87-88
 protocol, 154, 162
 references, 159, 162-163
 supplements for, 62, 71
 symptom improvement statistics, 125-127
 and vitamin C, 71, 145
amalgam fillings
 and autism, 132-136
 banning, 32
 and children, 30-32
 defined, 151
 and fecal metals test, 98
 references, 158-159, 161, 163
 and resistant oral/intestinal flora, 74
 types of, 163
 See also mercury toxicity
ambient mercury, 151
American Academy of Pediatrics (AAP), 151
American Dental Association (ADA)
 and children, 31
 defined, 151
 and health professional roles, 17

amino acids
 and dietary protein, 68
 dosage recommendations, 57-58, 63
 free-form supplements, 56-58, 67, 75
 and glutathione, 55
 for intestinal support, 75
 and minerals, 52
 and selenium, 54
 and vegetarians, 57, 67, 68
 from whey, 59-60, 67, 68
Amount per Serving, 43-44
amyotrophic lateral sclerosis (ALS), 157
anecdotal evidence, 151
antibiotic resistance, 74, 162
antigens, 151
antioxidants
 acetyl-L-Carnitine, 78
 alpha lipoic acid, 56, 63, 155
 and brain supplements, 77
 coenzyme Q 10, 58
 defined, 19, 151
 and mercury toxicity, 27-28
 milk thistle, 58
 and natural approach, 15
 and pre-removal detoxification, 88
 references, 155-156
 selenium, 53
 zeolites, 69
 See also immune system
arsenic, 129
arthritis, 158
artichoke powder, 68
Austin, Steve, 150
autism, 31, 132-136, 151
A-Z Guide to Drug-Herb-Vitamin Interaction (Austin), 150

B

BAL, 106
BBB. *See* blood brain barrier
beneficial dose, 151
beta-carotene, 15, 63
bifidobacteria, 62
biocompatible dental materials, 151
bioflavonoids, 50, 51, 63
biotin, 49
birth defects, 160-161
blank supplement chart, 89
blood brain barrier (BBB)
 and acetyl-L-Carnitine, 78
 and alpha lipoic acid, 56
 and brain supplements, 77
 and cilantro, 61
 defined, 151
 and ginkgo biloba, 78
 and mercury detoxification, 23
 and mercury storage, 21
 and mercury toxicity, 24
 and whey, 59-60
blood clotting disorders, 79
blood mercury test, 129-130, 151
bloodstream, 21
body fluids, 156
boron, 53
bouncing, 37

brain
and mercury storage, 21, 23-24, 30
references, 156
See also blood brain barrier; brain supplements
brain supplements, 56, 76-81
dosage recommendations, 80-81
importance of, 16
schedule chart, 89, 140
tolerance testing, 81, 86-87
branched-chain amino acids, 59-60
breast cancer, 67
bruxism, 151, 159

C

cadmium, 129
caffeine, 35-36
Calbom, Cherie, 150
calcium, 52, 78
candidiasis, 74, 75, 158
capsules, 45-46
casein, 60
cavitation, 151
cellular damage, 156-157
cellular membranes, 78
cellulase, 60
central nervous system (CNS)
defined, 151
and mercury detoxification, 23
references, 156
CFS (chronic fatigue syndrome), 79, 158
charcoal, activated, 62, 66, 75
chelation, 30, 157
See also chelators
chelators, 29-30
and bloodstream, 21
defined, 15, 151
and minerals, 53-54
See also chelation; pharmaceutical chelators
chewing, 40, 158
children, 30-32
and autism, 132-136
fecal metals test for, 31, 98
references, 159-160
chlorella
dosage recommendations, 63
for intestinal support, 60, 73, 75
tolerance testing, 85-86
chloride, 52
choline, 80
chromium, 52, 53, 99, 129
chronic fatigue syndrome (CFS), 79, 158
chronic mercury poisoning
and accumulation of mercury, 28-29
defined, 152
early symptoms of, 25-26
health effects of, 26, 122-124
vs. acute mercury poisoning, 24-25
cilantro, 60-61, 63-64, 136
cobalt, 52
coenzyme Q 10, 58, 64
colonics, 37, 73, 75-76
common bile ducts, 72, 75
composite fillings, 151-152

constipation
and detoxification support, 33
and intestinal support, 75, 76
and water consumption, 35
copper
dosage recommendations, 53
and fecal metals test, 99
and mercury testing, 129
and mercury toxicity, 51
and pharmaceutical chelators, 30
as trace mineral, 52
costs, 103-104, 118
cysteine, 55, 59, 155
cystine, 59

D

dendrites, 78
dental boards, 152
dental disease, 152
See also oral health; periodontal disease
dental materials biocompatibility test, 152
dentalwellness4u.com
defined, 152
health professionals database, 18, 42
mercury-free dentists database, 11, 118
mercury toxicity resources, 11
on Natural Cellular Defense, 70
oral health resources, 117
overview, 147
Dental Wellness Institute, 149
dentist mercury exposure
and detoxification program, 11-12, 88
and Natural Cellular Defense, 70
references, 157
dentists. *See* dentist mercury exposure; health professionals; mercury-free dentists
depression, 78
desiccated liver, 68
detoxification program, 82-95
and allergies, 82, 131
and amalgam filling removal, 29, 88
and dentist mercury exposure, 11-12, 88
length of, 93-94
low/slow philosophy, 15, 41, 49
natural approach, 14-15
overview, 92-93
participant recommendations, 87-88
and pregnancy, 79, 80, 135-136
schedule charts, 16, 47, 88-91, 110-115, 137-141
short-cut guide, 120-121
and side effects, 83-84
support for, 33-38
symptom improvement, 23, 94-95
symptom improvement statistics, 127
tolerance testing, 84-87
See also brain supplements; dosage recommendations; intestinal support; nutrition; program monitoring; supplements
detoxification system
defined, 152
and fecal metals test, 97
and immune system, 26-28
pathways in, 30, 33, 36
DHA (docosahexanoic acid), 78, 80, 86-87

DHEA (dihydroepiandrosterone), 78, 80, 86-87
diabetes, 116
diarrhea, 69, 82, 83
diet. *See* nutrition
dietary fiber, 61-62, 65, 73, 75
digestive enzymes, 58-59, 64
digestive system, 40, 46, 116
 See also intestinal support
Digestive Wellness (Lipski), 150
dihydroepiandrosterone (DHEA), 78, 80, 86-87
diseases/conditions
 and health professional roles, 17
 increase in, 19-20
 references, 157-158
 summary chart, 123-124
 and symptoms, 39-40
dissimilar metal restorations, 152
diuretics, 35-36
DMPS
 comparisons, 106-108
 and mercury testing, 128-129
 oral, 108
 references, 157
DMSA
 and amalgam filling removal, 88
 benefits of, 105-106
 comparisons, 106-108
 dosage recommendations, 64, 110-115
 for intestinal support, 75
 protocol, 110-115
 references, 157
docosahexonoic acid (DHA), 78, 80, 86-87
Doctor's Data, Inc., 130
dopamine, 79
dosage recommendations
 amino acids, 57-58, 63
 brain supplements, 80-81
 digestive enzymes, 59, 64
 FDA, 41-42, 44-45
 garlic, 61, 64
 low/slow philosophy, 15, 41, 49
 minerals, 52-53, 64-65, 66
 pharmaceutical chelators, 64, 110-115
 summary charts, 63-66, 80-81
 vitamins, 41-42, 49, 65
dose-related side effects, 15-16, 45, 81, 82, 83
D-Penicillamine, 106
drinking. *See* alcohol
Dr. Janson's New Vitamin Revolution (Janson), 150
drug abuse, 34
dry brushing, 38

E
EDTA, 106
EFAs (essential fatty acids), 67-68
elemental mercury, 20, 24, 152
enema therapy, 37, 73, 75, 76
Environmental Protection Agency (EPA), 31, 35, 152
enzymes, digestive, 58-59, 64
essential fatty acids (EFAs), 67-68
evening primrose, 66
exercise
 and detoxification support, 34, 36
 and lymphatic stimulation, 37
 references, 162

F
fasting, 66-67
fatigue, 37
fat-soluble substances, 152
fat-soluble vitamins, 42, 47, 83
fatty foods, 34
FDA. *See* Food and Drug Administration
fecal metals, 159
 See also fecal metals test
fecal metals test, 96-99
 for children, 31, 98
 defined, 152
 for dentists, 12
 and hair analysis, 130
 and health maintenance, 143
 and health professional roles, 17
 and program monitoring, 96-99, 102-103
fetus. *See* prenatal exposure
fiber, 61-62, 65, 73, 75
fibromyalgia, 79
financing, 118
fish, 31, 34-35, 67
fluoride, 52
folic acid (folate), 49
Food and Drug Administration (FDA)
 on pharmaceutical chelators, 105
 on supplement dosages, 41-42, 44-45
foods. *See* nutrition
free-form amino acids, 56-58, 67
free radicals
 defined, 152
 and exercise, 36
 and mercury toxicity, 24
 references, 160
 toxicity of, 27
 and zinc, 53

G
galvanic/corrosion effects, 160
galvanic current, 152
garlic, 61, 64, 71, 73, 75
gelatin, 45-46
general body, 21, 23, 152
general health, 160
genetics, 160
ginkgo biloba, 68, 78-79, 80, 86-87
glutamic acid, 55
glutathione (GSH)
 as chelator, 15, 21
 defined, 152
 dosage recommendations, 64
 for intestinal support, 73, 75
 IV therapy, 144, 145
 and mercury toxicity, 27, 28
 references, 155
 as supplement, 55
 tolerance testing, 85
 and vitamin C, 50
 and whey, 59
glycine, 55
gold crowns, 70
grape seed extract, 66
green tea, 68
GSH. *See* glutathione

*The GSH Phenomenon: Nature's Most Powerful
Antioxidant and Healing Agent—Glutathione*
(Pressman), 150

H

Haas, Elson, 8, 149-150
hair analysis, 130, 153, 160
half-life, 22, 153
Hawthorne berry extract, 68
HCL (hydrochloric acid), 46, 57
HDA (Holistic Dental Association), 148
headaches, 37
health maintenance, 90, 141, 143
health professionals, 16-18
 database, 18, 42
 and oral health, 117-118
 and pharmaceutical chelators, 109, 110
 and program length, 93
 and supplements, 39-40, 42, 66
hearing, 158
heart disease, 67, 116, 158
heavy metals, 153
heavy metal synergism, 153
hemoglobin molecules, 21
Herb Bible (Mindell), 150
herpes, 158
Hobbs, Christopher, 150
Holistic Dental Association (HDA), 148
Holmes, Amy, 136
homeopathic therapy, 62-63
hot drinks, 159
hydrochloric acid (HCL), 46, 57

I

IABDM (International Academy of Biological Dentistry
and Medicine), 148
IAMFD (International Association of Mercury Free
Dentists), 147
IAOMT (International Academy of Oral Medicine and
Toxicology), 147-148, 153
immune system
 defined, 19, 153
 and mercury detoxification, 26-28, 88
 and mercury toxicity, 26
 and oral health, 116
 references, 160
 and vitamin deficiencies, 48
 and zeolites, 69
 See also antioxidants
immunosuppressive therapy, 60
IND (Institute of Nutritional Dentistry), 148
industrial mercury exposure, 153
infections, 116
infertility, 160-161
infrared saunas, 36
infusions, 161
inorganic mercury, 19, 20, 24, 153
Institute of Nutritional Dentistry (IND), 148
Institute of Systemic Dentistry (ISD), 148
interceptive prevention, 153
International Academy of Biological Dentistry and
Medicine (IABDM), 148

International Academy of Oral Medicine and Toxicology
(IAOMT), 147-148, 153
International Association of Mercury Free Dentists
(IAMFD), 147
intestinal microflora (probiotics), 62, 65, 75
intestinal support, 72-76
 importance of, 16
 and leaky gut syndrome, 73
 mechanical, 37, 73, 75-76
 and mercury re-absorption, 72-73
 and organic mercury, 73
 references, 161
 and resistant flora, 73-74, 75
 supplements for, 55, 60, 61-62, 69, 73, 74-75
intravenous (IV) therapy, 144-145
iodine, 52
iron, 52, 99, 129
ISD (Institute of Systemic Dentistry), 148
IV (intravenous) therapy, 144-145

J

Janson, Michael, 150
Jigsaw Health Foundation, 148-149
joint rotation, 37-38
Juicing for Life (Calbom & Keene), 150

K

Keene, Maureen, 150
kidneys
 and acute mercury poisoning, 24
 as detoxification pathway, 30
 and fecal metals test, 98
 and pharmaceutical chelators, 108-109, 111
 references, 158

L

labels, 42-45, 59
lactobacillus, 62
lactose, 60
lead, 98, 105, 106, 129
leaky gut syndrome (LGS), 73
LGS (leaky gut syndrome), 73
lichen planus, defined, 153
life-style, 34
lipoic acid. *See* alpha lipoic acid
Lipski, Elizabeth, 150
liquid intake. *See* water consumption
lithium, 52
liver
 as detoxification pathway, 30, 98
 and intestinal support, 75
 and milk thistle, 58
low birth weight, 116
low/slow philosophy, 15, 41, 49, 144
lungs, 21
lymphatic draining massage, 37
lymphatic stimulation, 37-38
lysine, 68

M

magnesium, 52, 53
manganese, 52, 53, 99
massage, 37

- McGuire, Tom, 18, 117, 149
See also dentalwellness4u.com
- MDR (minimum daily requirement). *See* Percent Daily Value
- meat, 34
- mechanical intestinal support, 37, 73, 75-76
- MELISA test, 131, 153
- memory loss, 78, 80
- mercury
 accumulation of, 28
 defined, 153
 early forms of, 19
 "half-life" of, 22
 re-absorption of, 72-73
 storage of, 21, 23-24, 30
 types of, 20
- mercury amalgam fillings, 153
See also amalgam filling removal; amalgam fillings
- mercury detoxification
 and brain, 23-24, 30
 and chelators, 29-30
 confusion about, 14
 defined, 153
 and immune system, 26-28, 88
 and oral health, 117
 time for, 22, 24, 94-95
See also detoxification program
- mercury-free dentists
 database, 11, 118
 defined, 11-12, 153
 and health professionals, 18
- mercury poisoning
 and accumulation of mercury, 28-29
 acute vs. chronic, 24-25
 defined, 151, 152, 153
 early symptoms of, 25-26
 health effects of, 26, 122-124
- Mercury Policy Project (MPP), 149
- mercury release. *See* amalgam fillings
- mercury shock, 153
- mercury testing
 common tests, 128-130
 definitions, 151, 152, 154
 laboratories, 130, 146
 and program monitoring, 102-103
 references, 160, 163
See also fecal metals test; program monitoring
- mercury toxicity
 and amounts, 20-21
 and antioxidants, 27-28
 extent of, 20
 reasons for, 24
 references, 163
 resources on, 18, 111
- mercury vapor analyzer, 154
- metallothionein, 53, 156
- methionine, 68
- methylation, 161
- methyl mercury, 20, 154
See also organic mercury
- methylsulfonylmethane (MSM), 58, 64, 85
- micrograms, 20-21, 52, 97
- milk thistle (silymarin), 58, 64, 84-85
- minerals
 dosage recommendations, 52-53, 64-65, 66
 mercury effects on, 53-54
 and multiple vitamins, 49
 overview, 51-52
 zeolites, 69
- mobilizers, 30, 60-61, 136
- molybdenum, 52, 53
- monoamine oxidase inhibitors, 79
- mood disorders, 79
- motor nerves, 154
- The Mouth-Body Connection: The Relationship of Oral to Overall Health* (McGuire), 117
- A Mouth Full of Poison: The Truth about Mercury Amalgam Fillings!* (McGuire), 11, 18
- MPP (Mercury Policy Project), 149
- MSM (methylsulfonylmethane), 58, 64, 85
- MS (multiple sclerosis), 158
- multiple sclerosis (MS), 158
- multiple vitamins, 48-50, 65
- mutations. *See* genetics
- myalgia, and massage, 37
- N**
- NAC (N-acetyl-cysteine)
 and amalgam filling removal, 71
 dosage recommendations, 65
 for intestinal support, 75
 IV therapy, 144
 overview, 55
 references, 156
 tolerance testing, 84
- NADH (nicotinamide adenine dinucleotide), 79, 80-81, 86-87
- Natural Cellular Defense (NCD), 69-71
- NCD (Natural Cellular Defense), 69-71
- NDF, 60
- nephrotoxins, 154
- neurotoxins, 16, 154
- The NEW Detox Diet* (Haas), 149-150
- niacin (vitamin B3), 49
- nickel, 52, 129
- nicotinamide adenine dinucleotide (NADH), 79, 80-81, 86-87
- night guards, 154
- noble metal filling, 154
- nutrition, 66-68
 and detoxification support, 34
 essential fatty acids, 67-68
 fasting, 66-67
 and glutathione, 55
 references, 162
 and supplements, 39, 40-41
See also nutritional supplements
- nutritional supplements, 55-66
 activated charcoal, 62, 66, 75
 cilantro, 60-61, 63-64, 136
 coenzyme Q 10, 58, 64
 dietary fiber, 61-62, 65, 73, 75
 digestive enzymes, 58-59, 64
 free-form amino acids, 56-58, 67, 75
 garlic, 61, 64, 71, 73, 75
 homeopathic therapy, 62-63

nutritional supplements (*continued*)
milk thistle, 58, 64, 84-85
MSM, 58, 64, 85
oral glutathione, 55
probiotics, 62, 65, 75
See also alpha lipoic acid; chlorella; NAC; whey protein

O

occlusal contact, 154
omega 3 fatty acids, 35, 65, 67-68
omega 6 fatty acids, 67-68
oral DMPS, 108
oral glutathione (GSH), 55
oral health, 116-118
organic mercury, 20, 73, 154
osteoporosis, 116
"Other Ingredients" lists, 42-43, 46
oxygen, 21

P

pantothenic acid (vitamin B5), 49
Parkinson's disease, 79, 158
PC (phosphatidyl choline), 80, 81, 87
Percent Daily Value (), 42, 43-45
periodontal disease, 116, 117, 154, 161
personality disorders, 79
pharmaceutical chelators, 95, 105-115
 and amalgam filling removal, 88
 comparisons, 106-108
 dosage recommendations, 64, 110-115
 for intestinal support, 75
 and kidneys, 108-109, 111
 limitations of, 30, 98
 and minerals, 51
 and natural approach, 15
 and pregnancy, 136
 references, 157
 tolerance testing, 109-110, 111
 types of, 105-106
 urine mercury challenge test, 96-97, 109, 128-129, 154
phosphatidyl choline (PC), 80, 81, 87
phosphatidylserine (PS), 79-80, 81, 86-87
phospholipids, 79
phosphorous, 52
plantago seed husks (psyllium), 61-62, 65, 73, 75
porcelain crowns, 70
potassium, 52, 53
pregnancy
 and autism, 132
 and detoxification program, 79, 80, 135-136
 See also prenatal exposure
prenatal exposure, 133, 159-160
prescription medications, 88
Pressman, Alan H., 150
probiotics (intestinal microflora), 62, 65, 75
processed foods, 34, 40
program monitoring, 16, 96-104
 costs of, 103-104
 fecal metals test, 96-99, 102-103
 and pharmaceutical chelators, 111
 protocol, 102-103
 subjective symptom chart, 89, 99-101, 142

protein, 56-57
 and fasting, 66
 nutritional sources, 68
 See also amino acids; whey protein
protocols
 amalgam filling removal, 154, 162
 program monitoring, 102-103
 tolerance testing, 84-87, 109-110, 111
 See also schedule charts
PS (phosphatidylserine), 79-80, 81, 86-87
psychological support, 38
psychosomatic symptoms, 154
psyllium (plantago seed husks), 61-62, 65, 73, 75
pyridoxine (vitamin B6), 49

R

RBC (red blood cell) elements test, 102-103, 104, 130
RDA (recommended daily allowance). *See* Percent Daily Value
RDI (recommended daily intake). *See* Percent Daily Value
rebounders, 37
red blood cell (RBC) elements test, 102-103, 104, 130
red blood cells, 21
redundancy, 23-24, 77
references
 amalgam filling removal, 159, 162-163
 amalgam fillings, 158-159, 161, 163
 antioxidants, 155-156
 brain/central nervous system, 156
 cellular damage, 156-157
 chelation, 157
 children, 159-160
 dentist mercury exposure, 157
 diseases/conditions, 157-158
 fecal metals, 159
 free radicals, 160
 galvanic/corrosion effects, 160
 general health, 160
 immune system, 160
 infertility/birth defects, 160-161
 infusions, 161
 intestinal support, 161
 mercury testing, 160, 163
 supplements/nutrition/exercise, 162
 symptoms, 162
 transportation, 163
release of mercury. *See* amalgam fillings
renal deficiency, 154
renal failure. *See* kidneys
resistant oral/intestinal flora, 73-74, 75
resources, 147-150
 autism, 136
 mercury toxicity, 18, 111
 See also dentalwellness4u.com
respiratory disease, 116, 158
rest, 34
rest days, 90, 110-111
rheumatoid arthritis, 67
riboflavin (vitamin B2), 49
Rowbury, Robin, 74

S

S-adenosylmethionine (SAMe), 80, 81, 87
SAMe (S-adenosylmethionine), 80, 81, 87
schedule charts, 137-141
 and current dosages, 47
 importance of, 16
 overview, 88-91
 pharmaceutical chelators, 110-115
schizophrenia, 78
scurvy, 48
seafood. *See* fish
selenium
 as chelator, 15
 dosage recommendations, 53, 65
 overview, 53-54
 references, 156
 as trace mineral, 52
sensitizers, 154
sensory nerves, 154
Serving Size, 43
short-cut guide, 120-121
side effects, 83-84
 and brain supplements, 80, 81
 and low/slow philosophy, 15
 and pharmaceutical chelators, 109
 and supplements, 15-16, 45, 54, 66, 80, 81, 82
silymarin (milk thistle), 58, 64, 84-85
skin, 30, 36
smoking. *See* tobacco
sodium, 52
softgel caps, 47
spiritual support, 38
stomach, 46
stress, 34, 79
stroke, 116
subjective symptom evaluation, 89, 99-101, 102-103, 142
sugar, 34, 36
sulfhydryl groups, 24
sulfur
 and amino acids, 56, 57, 68
 in DSMA, 105
 in garlic, 61
 in MSM, 58
 nutritional sources, 68
supplements, 39-54
 current dosages, 47
 delivery systems, 45-47
 and health professional roles, 39-40, 42, 66
 for intestinal support, 55, 60, 61-62, 69, 73, 74-75
 labels, 42-45, 59
 matching, 47-48
 minerals, 49, 51-54, 64-65, 66
 multiple vitamins, 48-50, 65
 and natural approach, 15
 Natural Cellular Defense, 69-71
 and nutrition, 39, 40-41
 omega 3 fatty acids, 35, 65, 68
 and pregnancy, 136
 references, 162
 rest day, 90
 schedule charts, 16, 47, 88-91, 137-141
 scheduling, 44, 45, 49
 specific vitamins, 50-51

supplements (*continued*)
 and water consumption, 36
 See also brain supplements; dosage recommendations;
 nutritional supplements; tolerance testing
The Surgeon General's Report on Oral Health: 2000, 147
sweat therapy, 36-37
symptom improvement
 and mercury re-absorption, 73
 monitoring, 89, 99-101, 143
 references, 162-163
 statistics, 125-127
 timing, 23, 24, 94-95
symptoms
 and accumulation of mercury, 28-29
 and diseases, 39-40
 and diseases/conditions, 39-40
 early, 25-26
 and health professional roles, 17
 increase in, 19-20
 psychosomatic, 154
 references, 162
 summary chart, 122-123
 of vitamin deficiency, 48

T

tablets, 46
tai-chi, 36
thiamin (vitamin B1), 49
thimerosal, 132, 154
thyroid conditions, 158
time-release tablets/capsules, 46
tin, 52, 129
titin, 55
tobacco, 34
tolerance testing, 15-16, 60
 brain supplements, 81, 86-87
 Natural Cellular Defense, 70-71
 pharmaceutical chelators, 109-110, 111
 protocol, 84-87, 109-110, 111
Tooth Fitness: Your Guide to Healthy Teeth (McGuire),
 117, 149
tooth grinding. *See* bruxism
The Tooth Trip (McGuire), 149
toxic, defined, 154
toxicity. *See* mercury toxicity
toxins, 154
trace minerals, 52
transportation, 163
tryptophan, 68
tyrosine, 79

U

unprovoked urine mercury test, 128
urine mercury challenge test, 96-97, 109, 128-129, 154

V

vaccinations, 132, 133, 134
vanadium, 52
vegetables, 34
vegetarians
 and acetyl-L-Carnitine, 78
 and amino acids, 57, 67, 68
 and essential fatty acids, 67
 and NADH, 79

vision, 158
vitamin A, 42, 49
vitamin B1 (thiamin), 49
vitamin B2 (riboflavin), 49
vitamin B3 (niacin), 49
vitamin B5 (pantothenic acid), 49
vitamin B6 (pyridoxine), 49
vitamin B12, 49
vitamin C
 and allergies, 82
 and amalgam filling removal, 71, 145
 as chelator, 15, 21, 50
 dosage recommendations, 41, 49, 51, 65
 dose-related side effects, 82, 83
 importance of, 50-51
 IV therapy, 144, 145
 and scurvy, 48
vitamin D, 49
vitamin E
 as chelator, 15
 dosage recommendations, 42, 49, 65
 importance of, 51
vitamin P. *See* bioflavinoids
vitamins, 48-51
 and allergies, 82
 dosage recommendations, 41-42, 49, 65
 fat-soluble, 42, 47, 83
 and health professional roles, 39-40, 42
 multiple, 48-50, 65
 resources, 150
 See also supplements
Vitamins for Dummies (Hobbs), 150

W
warning labels, 45
water consumption, 35-36, 57
website. *See* dentalwellness4u.com
whey protein
 and dietary protein, 68
 dosage recommendations, 65
 for intestinal support, 73, 75
 overview, 59-60
 for vegetarians, 67
WHO. *See* World Health Organization
World Health Organization (WHO)
 on amalgam fillings, 31
 defined, 154
 references, 163

Y
yoga, 36

Z
zeolites, 69
zinc
 dosage recommendations, 53, 66
 and fecal metals test, 99
 and mercury testing, 129
 and mercury toxicity, 51
 and pharmaceutical chelators, 30
 as trace mineral, 52

About Dr. Tom

Dr. Tom McGuire has been an innovator and leader in preventive dental education for over 30 years. Dr. Tom founded the Dental Wellness Institute in 1997 with the goal of bridging the gap between the dental and medical professions. He is the author of two best sellers, *The Tooth Trip*, (Random House, 1972) and *Tooth Fitness: Your Guide to Healthy Teeth*. He has lectured and written articles on oral health and is considered one of the few recognized authorities on the subject of holistic dental wellness. His innovative Dental Wellness Education Program has been utilized by the dental profession, businesses, schools, and dental insurance companies.

He has spent the last 10 years researching mercury amalgam fillings and studying their effects on overall health. In addition, his extensive research into mercury detoxification has resulted in the development of his exceptional mercury detoxification program. He is considered to be an expert in the area of mercury amalgam fillings and mercury detoxification.

In 2003 Dr. Tom formed the International Association of Mercury Free Dentists (IAMFD). He founded this Association to support mercury free dentistry and to provide a more effective way for patients to find dentists who have made a commitment to practicing mercury free dentistry. To find a mercury free dentist [Click Here](#). To learn more about the IAMFD and the many benefits it offers mercury free dentists, Please [Click Here](#).

Dr. Tom's books have been published in Great Britain, Canada, and the Netherlands. He has appeared on national television and many popular magazines have carried articles on him, including: *Newsweek*, *Time*, *Business Week*, *Medical World*, *Esquire*, *Reader's Digest*, *The Christian Science Monitor*, *Publisher's Weekly*, *Prevention Magazine*, and *Let's Live*, to name a few.

Articles about Dr. Tom have been published in many major newspapers, including the New York Times, Washington Post, Los Angeles Times, Chicago Tribune, Detroit Free Press, Wall Street Journal, and the San Francisco Chronicle.

In addition, *Rodale Press* and *Psychology Today* carried the *Tooth Trip* in their book clubs and both of his books have been Book-of-The-Month Club feature selections.

Dr. McGuire received his BS at San Francisco State University and his DDS at the University of the Pacific School of Dentistry, San Francisco. He lives in Northern California with his wife Zoe, where he continues to spread the word about the importance of oral health and its relationship to overall health.